

WHEN THE MOON DIED BY DON WILCOX

See
BACK
COVER

AMAZING STORIES

SEPTEMBER

20c

AMAZING
STORIES

BEAST OF THE ISLAND

by ALEXANDER M. PHILLIPS

FACE IN THE SKY

by THORNTON AYRE

and Stories by

KUMMER - SHURTLEFF - WILLIAMS



VOLUME 13
NUMBER 9

SEPTEMBER
1939

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29x5.00-20	2.85	1.25
5.25-17	2.90	1.35
28x5.25-18	2.90	1.35
29x5.25-19	2.95	1.35
30x5.25-20	2.95	1.35
31x5.25-21	3.25	1.35
5.50-17	3.35	1.40
28x5.50-18	3.35	1.40
29x5.50-19	3.35	1.45
6.00-17	3.40	1.40
30x6.00-18	3.40	1.40
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33x4	2.95	1.25	33x5	3.75	1.75
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The OBSERVATORY

by THE Editor

ALEXANDER M. PHILLIPS returns to the pages of AMAZING STORIES this month with a yarn we know you'll like. He's created a very tense and scientific tale of the type we remember from several years ago as one very well received by the readers. Perhaps, according to the latest concept of science fiction, it is a bit old-fashioned, but its strong quality of unusual and convincing adventure and its unique concept rate it quite high with your editor.

WHEN we gave Mr. Phillips the cover spot, with Robert Fuqua, the master of gadgets, we were greatly influenced by the demands of our readers for another cover to compare with the April 1939 cover, which also featured a gadget. And in addition we were influenced by those readers who demanded that we give them a cover which contained more "picture" than we usually portray. So, this cover is one which features a gadget, and it also gives more background and picture value. We are quite anxious to know what our readers think of this cover.

RECENTLY we've had a lot of talk about covers among our readers. And it is surprising how interested they are in what should be featured. Accordingly, we are going to do a bit of experiment in the future issues, which statement is our way of heralding the forthcoming "art" cover of MacCauley, illustrating what we believe to be one of the most potently plotted stories yet to appear in our pages: "The Four-Sided Triangle" (or maybe we'll change the title) by William F. Temple.

TEMPLE, by the way, is the same who received a lot of commendation on his story

featuring a Mr. Craddock. You remember that one, we know! And take it from us, he's outdone himself on this coming story.

ONE of the writers we predict will make a great hit with you, in future issues of AMAZING STORIES, is Nelson S. Bond. We've got three stories on hand by this writer, and honestly, we can't decide which one to run first, they are all so good. In fact, judging by the flood of excellent manuscripts (which makes our job of selecting the best tougher than ever) that has come into our office in the past few weeks, our blast at

"policy" critics has caused the writers to rally around us with yarns they modestly admit are their "best" efforts in an attempt to prove they can turn out stories that will "make" our policy. We humbly admit they are succeeding.

ANOTHER angle on our recent discussion in Discussions about the ages of the old Biblical characters is pointed out by Donn Brazier of Milwaukee, who sends us a clipping concerning the Peruvian girl-mother, who at the age of five, gave birth to a 6 pound boy.

About that theory concerning "biological impossibility," evidently it is possible. But we still hold that wasn't the reason for the difference in age-limit. This sort of thing is the exception, not the rule. If we suppose that all children were born by children in those days, then we run up against just as great a problem as the time problem. Why the change now, in so few short centuries?

THE problem scientists most want to solve, may be solved by the new 200" reflector at Mt. Wilson. Is the universe expanding or does light get tired and lose energy in its race through space?



Dr. Edwin Hubble is the man who will most likely answer the question.

LIGHT from distant star galaxies is captured and passed through a spectrographic lens. The lens breaks up the light into different bands, which form the spectrum of the tested star. The light from these stars is invariably shifting toward the red end of the spectrum. Such a shift indicates presumably that those stars are speeding away from the earth. If the distant stars and nebulae are receding, the assumption is that the universe is expanding. However, the speeds, about 26,000 miles per second, are so great that many astronomers believe that the expanding universe may be an illusion.

DR. HUBBLE favors the stationary universe, and it is most important to him to discover whether the loss of energy occurs in the star or nebula itself, or in space. If the latter, then his own theory is correct. However, until he proves that, the expanding universe theory is most likely.

W. F. SKINNER, of Miami, Florida, has a working model of a "gravity machine" which he claims will multiply power. He claims a one horsepower motor would provide electricity for a community of 3,500 people at a cost of only \$5.00 a month.

His working model, operated by a $\frac{3}{8}$ horsepower motor, ran in turn, a heavy duty 12 foot lathe, a six foot drill press, and a hack saw from the same shaft, at the same time. Normally the lathe alone would take a two horsepower motor to operate it. The principle of its operation lay in off-balance wheels, and thus, they "were always falling." A. P. Michaels, consulting engineer at Jacksonville, Florida, inspected the device and determined it to be practical. However, other engineers have not admitted this, desiring further time to check up on the device. Your editors, therefore, are not alone in wondering whether Skinner is another Keely. Time will tell.

ALFRID P. SLOAN, JR., chairman of the General Motors Corporation, predicts that artificial suns will light the city of the future. Among the scientific marvels he predicts are: High octane gasoline containing bromine from sea water, electrical reduction of dust in homes, planes with

cruising speeds of 600 miles per hour, diesel engines on railroads, concrete buildings with frame and walls cast in one operation, meat tenderized by an electric lamp, plastic glass, and many others.

IT has long been known that we are miniature power plants. Chemo-electric currents run through our bodies, enter into all our physical activities. Recently, also, it has been discovered that literally we emit brain waves in thinking. But none of this knowledge has prepared science for a man who is a veritable dynamo!

An electric light bulb, held in one of his hands and stroked with the other, glows as if fed through a regular power line! He is also able to illuminate a neon sign in the same way.

Scientists are cautious in venturing their opinion, but admittedly are puzzled.

CEMENT keeps the world from flying apart! This "cement" is an electrical binding force within the cores of atoms which holds all the matter in the universe together. Otherwise everything would disintegrate into simple atoms of gaseous hydrogen!

The force of this inner attractive power has been measured. It is equivalent to 11,000,000 electron volts!

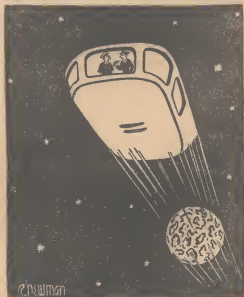
Matter, of course, does disintegrate. That is be-

cause the binding force acts only when the protons—the building blocks of the atoms—are within one-tenth of a millionth of a millionth of an inch apart.

It is this fact which enables physicists to split atoms in the laboratory. Charged particles are shot into the cores of the atoms, adding new energy which is shared by the protons. This requires them to move farther apart—thus breaking the hold of the electric cement!

EANDO BINDER says Adam Link will return which should be good news to our readers, who have demanded his salvation. A robot, huh! He's HUMAN!

WITH that we'll set the automatic control on the Observatory telescope, and take a 30-day time exposure of the science fiction heavens for our next issue. See you then.



We must be bucking an etheric magnetic field. We aren't making any speed since we stopped at that last asteroid.

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1939

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NUMBER 9

AMAZING STORIES

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Cover painting by Robert Fuqua, depicting a scene from "Beast of the Island"

Back cover by Julian S. Krupa

Illustrations by Robert Fuqua, Julian S. Krupa and W. T. Barnes

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Member of the Audit Bureau of Circulations

William B. Ziff, Publisher; B. G. Davis, Editor; Raymond A. Palmer, Managing Editor; Herman R. Bollin, Art Director

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AMAZING
STORIES
SEPTEMBER,
1939

Published monthly by ZIFF-DAVIS PUBLISHING COMPANY at 608 South Dearborn Street, Chicago, Ill. New York Office, 331 Fourth Avenue, New York City. Entered as second class matter October 6, 1923, at the Post Office, Chicago, Illinois under the act of March 3rd, 1979. Subscription \$3.40 a year (12 issues); Foreign, \$5.40.

Volume XIII
Number 9

BEAST of



Our raft was set alight, burned, and broken up. The water hissed and boiled.

the ISLAND



By
Alexander M. Phillips

CHAPTER I

The Thing in the Night

THE two young men had evidently just walked out of the lagoon, for the water still streamed from their white aviators' overalls. Behind them, on a jutting coral reef, a silver monoplane lay tipped over on one wing. It was utterly out of place lying crippled there on the coral, washed by the placid, sundappled water, in a scene that might have come from Earth's childhood.

"So this is our finish," said the taller

WELFORD and Mac-Glennon felt themselves lucky to be alive on this lonely island, but when they faced the awful menace of the beast—

of the two men. His deep-set eyes, grey and clear with long gazing at far horizons, followed the still, green slopes up to the final, bare, black rocks; the last outpourings of the ancient crater which had formed the island. "No more ocean hopping for us; because of a lousy gas-leak!"

"It's a miracle that we're alive, Mac," said the other. He brushed the dark hair back from his forehead, and glanced along the empty beach, which ended in a line of weathered cliffs a few hundred yards to his right. "This island's not charted . . ."

He broke off and stood transfixed, his head turned in an attitude of listening.

"What's the matter?" asked his companion.

"I thought I heard metal clanking, banging on rock . . ."

The other grunted.

For long moments they stood side by side on the beach and stared at the island; an island shown on no charts in their possession, a deserted bit of land lost in the vastest of oceans, and probably unvisited by man since time began.

Finally MacGlennon wandered along the beach, returning presently with an arm full of driftwood.

"A fire?" asked Welford. "It's not cold."

The Scotchman nodded. "No. But I want light tonight. There's something about this place . . ."

The other agreed. He too felt the mystery of the island's green-cloaked hills and shadowed ravines. "We can look for a spring in the morning," he suggested. "And I'll get at the radio. The plane'll last in that water as long as this calm holds. Soon's we can report our position they'll pick us up. Nothing to it but waiting, and there should be plenty of cocoanuts around here."

MacGlennon looked at him but didn't reply. He busied himself with starting the fire, using the matches he carried in his upper pockets, unwetted in the shallow water of the lagoon.

Night descended solemnly over the island, and the men disposed themselves on the sand to sleep. Large and bright, the tropic stars burned in their season in the high vault of the sky.

MacGlennon slept soundly, in spite of the uneasiness the island inspired. But Welford found himself in for one of those nights of horror when the mind, dulled by fatigue, finds it impossible to separate dreaming and waking, confuses fact and nightmare fancy.

The dreams that haunted his sleep at last drove him into a dull vigilance beside the dying fire.

He sat staring into the blaze with fixed and hypnotized eyes. The fire crackled, and burned blue with brine, and MacGlennon groaned in his sleep.

With a horrible feeling of being watched, of being studied by cold and inhuman eyes, Welford jerked up his head. The fire had died to a sullen red glow of coals, and a damp chill was in the air. Whether he was truly awake or again in the grip of some grotesque dream he was helpless to determine, but he had the fearful assurance that something stood opposite him, that something watched him from the darkness beyond the feeble light of the coals.

There remained in his mind the vague memory of a bright light thrown upon him.

And then sound emanated from the night, and Welford's staggered consciousness refused any longer to believe at all in the reality of this experience.

"Mor T'evikor?" asked a deep, hoarse, rusty voice, which rumbled away in scratchy monotones.

Welford shook his head clumsily, trying to clear it. It *must* be a dream.

"Damn you, go away," he growled.

There was a rustle of movement in the darkness, a shifting of sand and a strange squeaking. The rasping voice spoke again.

"Mor T'evikor!" it said loudly, and a faint light began to glow, then faded. There was a crunching of sand that moved farther away, and once, much later, Welford thought he saw a bright light moving about the cliffs; then in spite of himself he went deeply asleep and so slumbered until MacGlennon aroused him in the fresh bright light of morning.

"FIRST, water," said the Scotchman.

"If I'm not mistaken I saw a falls leaping from those cliffs, just before I set her down. Shall we go together, Bob, or separate?"

"Let's stick together, Mac. Water won't be hard to find here. That central peak has more than a thousand feet altitude. It'll stop plenty, but I suppose most of the streams will be on the east."

MacGlennon had moved around to the other side of the bed of ash where their fire had been. He stopped abruptly and stared at the sand.

"Bob! Come here! What the hell's this?"

The memory of his fantastic dream surged over Welford as he sprang to his friend's side. And then he stood and stared in amazement at the tracks in the sand.

"What is it, Bob? Were you dragging something around in the night?"

"N—no," said Welford. Before him two ruts or channels in the sand, about a yard apart, led back into the shadow of the palms. They were perfectly parallel, and looked as though made by two marching columns of the big crabs, but crabs, even by accident, didn't walk in columns, and if they did, the columns

wouldn't proceed in parallel lines, three feet apart.

Sea-birds, beating out to their fishing, screamed over the two men as they stood staring.

"I tell you this damned place has something wrong with it," said MacGlennon. "I knew it when we walked ashore. Why hasn't it been discovered? And what the hell sort of an animal left these marks?"

They followed the ruts and found that they emerged from among the palms, trailed down to their camp, where the sand was beaten and scuffed over a large area on one side, and then led back to the palms again, losing themselves at last on the harder, higher ground.

Welford suddenly turned and marched out into the lagoon.

"Where are you going, Bob?" asked Mac, in surprise.

"Out to the plane to get guns." He continued splashing determinedly through the shallow water, and MacGlennon saw him disappear within the plane. A few moments later he emerged and retraced his path over the rough coral, holding two automatics above his head.

"Here," he said, handing one of the guns to MacGlennon and thrusting the other into an upper pocket where it would not be wetted.

They moved on then to the easy slopes beyond the beach, stepping over dense masses of the glossy green vine, to enter the shadows of the forest. Here, in the green gloom, they both paused, listening.

A solemn hush pervaded the forest, muffling even the ceaseless roar of the surf, and the vaguely sinister air which seemed a part of this island was here intensified a hundredfold.

As the two men ascended the slight gradient and turned to the left toward

the cliffs they came upon small groves of bananas, the ripened fruit fallen in places and heaped in dissolving mounds.

"God, but this is an eerie place," said Welford, his voice echoing oddly through the still groves. "Let's hurry and find that water. I want to get out of here and get working on the radio."

He had hardly ceased speaking when the heavy tranquillity was shattered and dispersed by a shrill whistle. They had just entered a small clearing and, over the tops of the trees, the steep face of the cliffs could be seen in profile. The sound had come from there, and, as the men stopped transfixed, they saw something moving on the summit. It was hidden in vegetation, and by the rise of the ground, and was moving away from them, but before it vanished they caught a glimpse of a smooth surface and a dull gray color.

There was a faint and distant crashing of branches and then the same gruff voice Welford had heard before cried: "Mor T'evikor!"

SILENCE flowed back over the forest while MacGlennon and Welford stood staring wordlessly at the cliff-head.

"Come on!" yelled the Scotchman, abruptly, and raced across the clearing. "That's something we can see, at last!"

Welford sprang in pursuit, and they ran up the steepening slope, the trees thinning as the land rose, until they came out upon the top of the cliff. Here a gently undulating plateau, waist deep with tall grass, extended to the sharp break of the cliff itself. It was deserted, only the grasses moving to the thrust of the stiff breeze.

"I wasn't dreaming!" gasped Bob, as he caught up with his companion. "That—that thing. I heard it last night—"

Breathless, he gasped out the story

of the events of the night to the staring Scot.

"But, Mac, what in God's name is it?" he concluded.

"It doesn't sound like any animal I ever heard of," stated MacGlennon, pulling thoughtfully at his lean jaw, on which a two-day stubble of sandy hair bristled. "And if it is a man— It might be a castaway, crazy from the solitude."

"But what about the marks in the sand?"

Mac was silent, and the two men waded into the grass, moving toward the cliff.

"This place just *can't* be inhabited," said MacGlennon. "If it was we'd have seen a village, some people, some signs of the natives, when we were over the island, and I saw nothing."

They had a good idea of the extent and topography of the island, for it had stood out sharply from the blue water as they dropped their plane toward it for a landing.

It was about 2 miles long in a north-east-southwest direction, and a half mile wide at the widest point, which lay in the southern half. Along the eastern coast the reef lay close to the shore, and was faced by steep cliffs. On the west the reef stood further off, forming a wide lagoon, and the land behind it was weathered and broken. At the waist the island narrowed, its coast line hollow on the lagoon side, and here was located the small beach where they had come ashore.

Most of the island was a rolling plateau, cut by ravines and shallow valleys. In the south, two peaks rose to craggy summits, where a few conifers clung grimly to the black rock. The smaller northern end was almost level, extending to the sheer cliffs, which broke and fell sharply to the water.

Together and in silence they came to

the weathered lip of the cliffs and turned north. Beneath them—perhaps fifty feet below—lay the lagoon, its waters a myriad shades of green; in places transparent as crystal, in others dazzling with reflected sunlight. Farther out, the sea beat with a white thunder on the reef, the leaping spray gleaming in the sunlight, and flying off in pale mist on the steady wind.

They came to the waterfall MacGlennon had seen. Here the stream had formed for itself a shallow cup-like pool from which it sent a narrow cataract leaping out into the sparkling air to plunge down the steep face of rock,

striking and leaping again, until it dove at last, with a white boiling of water, into the lagoon.

A shelf of rock bordered this pool, and upon the shelf lay a crumbling human skeleton.

MacGlennon, refusing to be further startled by anything this unpredictable island might offer, stared dourly at the white bones, rubbing his long jaw thoughtfully. Welford stepped closer, leaned over to peer at the skeleton.

"So we were wrong," said MacGlennon. "This place has been visited. Maybe there *are* people living here."

Welford shook his head. "That fellow's been lying there a long while, Mac. Look at those bones—they'd crumble to dust if you touched them. And he was a white man. See the clothes?"

Tatters of a faded cloth lay under the skeleton, and rusted buckles were



The skeleton lay in an unmistakable position, pointing the way to some hidden mystery. Was it buried treasure?

lodged in the bones of the feet.

They studied in silence the dry things that had once been part of a living man. A faraway bird uttered a rattling cry, like rapid, foolish laughter.

"Mac, did you ever read 'Treasure Island?'"

MacGlennon looked at his friend in surprise. "You're not going looking for pirate gold, are you?"

"Maybe not, but in Stevenson's book a skeleton was used to point the way to the treasure. Does it suggest anything?"

"You're right!" exclaimed Mac. "Damned if somebody hasn't arranged these bones! They point toward the northwest! I wonder—"

The skeleton lay on its face, although the skull had rolled to one side, and its arms, extending in a line with the body, pointed stiffly, in a position that was unquestionably a gesture.

They followed its direction with their eyes. The line crossed the cliffs at an oblique angle, extended out over the empty ocean.

"But what's out there, Bob? Probably the poor devil died here—dropped down thinking of home, and reaching for it."

"Toward the northwest? His home was probably in Europe or America. Maybe he's pointing toward some point along the cliff."

"Well, we'll go and see. But first, let's get a drink."

They drank thirstily, and started off, conscious of the grinning skull that mocked them with empty, shadowy eye-sockets.

IT was MacGlennon who found the narrow ledge leading down from the edge of the cliff. It lay directly in line with the skeleton's outthrust arm. They examined it in silence. It went steeply down, then bent around a bold

face of rock and vanished.

"Come on." Mac lifted the automatic from his pocket and started down. Welford followed him.

The ledge was not difficult to traverse, for it widened as it descended, and the clear void on their left with its rippling, sparkling floor of water was no frightening sight to an aviator. Beyond the buttress of rock, the ledge terminated in a tiny amphitheatre. At the rear of this natural balcony the mouth of a cave yawned darkly.

"Have you got your flash?" asked Mac.

Bob drew a flashlight from a hip pocket.

Inside the cave, in spite of the flashlight, they were blinded for some minutes, their eyes accustomed to the brilliance of the outside sunlight. As the objects about them gradually began to emerge from the darkness the first thing which seized their attention was a second skeleton. It lay close to the entrance, its position eloquently testifying that death had overtaken its possessor as he crawled laboriously toward the opening. It, too, lay on its face, but the knees were drawn up, and one arm was sprawled before it, the fingers clawing at the hard rock. The other, the left arm, dragged at the side.

Great, cool gushes of salty air burst now and again into the cave, to lift and flap the rags that still clung to the skeleton.

"Bob, what is this we've stumbled into?" MacGlennon looked helplessly at his companion. "Are we going nuts? A talking animal that comes and looks at us at night, and leaves tracks like nothing on earth; that yells at us from the hills. And now this. Who were these men, and what killed them? Who made a pointer out of that one up there, and why does it point to this place?"

Welford was studying the skeleton.

"Mac, look at his ribs, up near the left shoulder. Do you see? They're burnt, burnt almost away. I'd swear that's a burn, and there's no marks on the rock under him so he must have got it while he was alive. And I'll bet that's what killed him. Let's see what else is here."

He swung the light around. It swept over the black, rugged walls and a crude and time-wracked table and stool, evidently made on the island. The cave appeared to have been carved by water out of the hard, igneous rock, which suggested a tremendous antiquity for the island.

Bob swung the torch further—and a large battered chest sprang into the circle of light. Both men gasped.

"By heavens, Bob, it *is*!" exclaimed MacGlennon, striding toward the chest. "A pirate's hide-out! But these skeletons—they must be old. Old!"

"They are old, Mac. Didn't you notice the clothes on this one? Eighteenth century, by the look of them."

Bob was beside him, and together, in a fever of excitement, they raised the unlocked lid of the chest.

CHAPTER II

The Walker

IT came up slowly, the rusty hinges complaining, and the dry-rotted wood crumbling and splintering with soft, sucking noises.

Inside lay a pile of mouldering clothes, and on top of them, a hide-bound volume.

MacGlennon's breath burst out in an involuntary grunt of disappointment, and Bob found his expression so ludicrously fallen that he laughed.

"Gold! You expected to see a pile of yellow doubloons and pieces-of-eight, hey, Mac? What good would they be to us here? And you know as well as

I do that there's damned little chance of us getting off."

The light died out of Mac's eyes and he dropped the lid back in place.

"You're right about the gold, Bob. But we'll get off, all right. Somebody'll pick up our signals. It's that damned thing here on the island that worries me. If it shows itself again I'm going to throw a slug at it. What is it? What could it be?"

Bob shrugged and lifted the lid of the chest. "Let's see what's in here. This is a mystery we can learn something about, anyway."

He lifted the book and laid it aside, pulled at the rotten, ripping clothes. Beneath was a sextant of antique design and a few tins of ship's biscuits. A rusted cutlass and several side arms, one of them a beautiful pistol, well preserved and set with Spanish filigree-work, rested on the bottom. There was a huge and cumbersome watch, stopped at the hour of three, and a small pouch that clinked when moved.

"Here's your gold, Mac," said Welford, handing him the pouch. MacGlennon opened it absently and a trickle of sovereigns and assorted coins of the 1700's ran out on his hand. He stuffed them back and returned the pouch to the chest.

"These are the belongings of an officer, Bob. Let's see that book. I'll bet it's a log."

He took the book back to the cave mouth and the light. It opened creakily, the leaves stiff and yellow with age.

"Bob! Listen to this! This is the log-book all right. But listen to what this guy writes at the back. The man must have been delirious! Or crazy! This is the weirdest island in the—"

"Go on—read it! Or give it to me!"

MACGLENNON forced the book open again, and began reading:

"I, Captain Miles Trevichord, master and part owner of the bark, *Devon Fortune*, do leave this record of our most terrifying and horrible murders here on this accursed isle to warn any others why may be so misfortunate as to come upon its shores.

'My shipmates are dead; slaughtered most fiendishly by the demon which here has its dwelling. I am the last. All the others, or such of them as I did discover, excepting only George Willson, I did give Christian burial, knowing that in that future life into which they were so cruelly thrust, they shall find recompense for their suffering here. George Willson, the last save myself to die, I stretched upon the rocky shelf by the pool, in the hope that any mariner coming after us would follow his pointing arm, and so find this cavern, and this my warning.

'I am stricken grievously, and sick unto death, yet methinks I have some little while yet; and this record to which I am devoting my last moments of Earthly life may perchance be of service to any who come after me.

'As is recorded in the forepart of my log, we left Plymouth on the third day of February, in the year of Our Lord 1789. Briefly, we were bound on a trading voyage to the Indies, in which venture we did acquit ourselves well, but to what purpose shall be revealed.

'Within the week a storm descended upon us, a storm like unto which all other storms, even in the memory of the most aged member of our crew, were as the summer rain to the fury of the surf of the sea.

'Three days and nights we drove before it, and did not see the sky. The noise was as the crashing of cannon; the sea raged about us and o'erleaped our highest spar. The wind wrecked and dismantled us until we were no more than a floating hull, and I mar-

veled that the ship held together.

'And then on the fourth day the wind abated and the sun peered at us foggily. But the seas did not go down and our shattered wreck could bear no more. She came apart beneath us, but we succeeded in fashioning two great rafts. Mr. Nystone, my excellent mate, took command of one; I the other.

'I had with me on my raft eight men. Mr. Nystone, six; all that remained of our crew.'

'He lists their names,' said Mac, interrupting himself, "and asks whoever finds this to notify the Admiralty Board and the Devon Company of Gentlemen Adventurers."

"Our rafts," MacGlennon began reading again; "being clumsy, were not amenable to direction, and drifted rapidly apart. For two days the other party remained in view, then they vanished, nor have I beheld them since.

'A week longer we drifted, before being cast upon this place, and I curse the fate which spared us the terrors of the sea, to deliver us into this adobe of demons. The creature, a horrid monster, met us upon the shore, whither we were dashed, our raft destroyed upon the reef. It addressed us in a language I know not but I doubt me not it is the speech of Hell. It is a creature of nightmare, a thing not to be believed. So dreadful in shape, so frightful in appearance is this demon, our carpenter, James Smout, went mad upon the spot, and cast himself into the sea, despite all our efforts to restrain him.

'This demon is like unto a centipede or scorpion, and yet it is neither. In size it stands as high as a tall man, and near as long as a man's body. Although it lacks a head it has many eyes, and they glow brightly so that at night it sees by its own illumination.

'Tanieta, the native who had journeyed with us from Otaheiti, said his

people knew of this demon, and named it the Walker.

'Many of our people were wounded on the sharp coral, and when presently the demon withdrew and took itself off into the forest, I set about dressing their injuries. Our doctor had been upon the other raft.'

'We saw no more of it that day, but perceived its eyes among the hills all night.

THE following day we were more recovered, and had found water. When the demon walked abroad we hid ourselves from it, although it hallooed and shouted along the shore some while. After that it came more cautiously, and stalked us. Sometimes we discovered it had hid itself and had been watching us for hours at a time, displaying much interest in our movements and in the shelter we had erected on the beach.

'This demon fears the sea, and will not enter it. For that reason, fearing no doubt it might fall from the ledge, it comes not to this cavern, and any seeking escape from it will find sanctuary here.

'Two more of our men died; one from the fever caused by his injuries and the other from fear of the demon, which drove him mad.

'We discovered this cave on the second day and took council among ourselves whether we should attempt to destroy the Walker or fashion a second raft and cast ourselves once more on the mercies of the sea.

'Several of our men had at divers times already fired upon the demon, but the shot embarrassed it no whit; it is impervious to bullets.

'We determined on the raft and set to work at once upon its construction. From the goodly forest on the southern upland we recruited our timber, rolling the trunks down the steep slope into the

lagoon, where others of our party bound them together with vine.

'All this the demon observed, watching us continually to the terror of the men, and speaking often in its own tongue. At this time it offered us no injury.

'At night we slept in this cave, where we had learned the Walker would not come. On the fifth day, to my horror, the demon called me by name, and asked haltingly who we were and what we did upon the island. I cursed it, and abjured it to return to its master, and whatever Hell had spewed it forth.

'It seemeth not to understand, nor do any of the exorcisms I wot of take the least effect.

'The end of the week saw our labors complete—our raft lay ready and we had found a broad passage in the northern part of the reef.

'The demon spoke more freely, but still in limping English, and now understood it was our purpose to leave the island upon our raft, for it came to us on the morning of the seventh day and demanded that we destroy the raft, ordering us to remain where we were.

'Thomas Westfield fired upon it and did it no hurt, as had several of our men before. And then the demon revealed its true hellishness, for it belched fire upon Westfield and burned his head from his shoulders:

'The rest of us fled for the raft but the Walker went leaping before us. Coming to the beach whereto the raft was moored, it poured forth more fire so that our raft was set alight and burned, and broken up. Where its fire struck the water, the water hissed and boiled. So heated was its breath some logs of the raft we later found upon the sand were charred and black throughout, even though they had lain in the water.

'The remainder of our tale is quickly

told, and I must be brief, for I weaken swiftly.

'One by one the Walker hunted us down and breathed its fire upon us, murdering us in most cruel fashion.

'We sought escape here in this cavern, but thirst and hunger drove us out. One by one I heard my shipmates die; I heard their screams and the hissing of the demon's fiery breath.

'It lay in wait for us by the pool where we went to drink, and when we avoided that pool and drank from the divers streams of the island it stalked us through the woods. The days came and went until at last there remained only George Willson and myself.

'Some days, particularly days of heavy storm and rain, the Walker came not forth, hiding itself in some fastness of the southern peaks, and on those days we did lay in what store of food and water we could manage, and so, by remaining here in our cavern, were safe for some little while.

'At other times we made traps for the demon, and set heavily charged pistols to fire at a touch. Although we heard them explode on more than one occasion, they did not at any time do injury to the Walker.

'George Willson at this time I think was going slowly mad, and in truth I marvel that we both did not run screaming through the woods, or fling ourselves into the sea.'

"The next line or two is smeared and blotted, and runs off the page," said MacGlennon. "You can see he's getting weaker." He peered closer, frowning. "The next word I can make out is —nor? Yes, that's it."

"... nor have I at any time," he read on, "seen the Walker take food or water, and what its sustenance may be I know not.

'When I returned to the cave I found that Willson had broken his bonds and

fled. I followed and came upon him at the pool, but the Walker had been before me, and I found him dead.

'I have lost count of time and know not the days that lapsed, but on a morning somewhere later, when I ventured out in search of food, the demon found me. I had with me my two pistols, and fired at once, but the Walker paid no heed, and came leaping toward me. Knowing the uselessness of flight, I charged the demon, calling on Heaven for aid, and attacked the Walker with my cutlass. But it was as though I struck at steel; my blows glanced from his hideous body, and the next moment he breathed upon me, he thrust his fiery tongue into my chest, and the agony of death was on me. My lungs were consumed by fire, and I fell unconscious from the dreadful pain.

'When I awoke the Walker was vanished, and as I had gone not far, I dragged myself back to this cavern, each breath the most terrible agony.

'A numbness is on me now, and a great weakness, and I know that death is close. I would have ended my suffering ere this, but that I thought it my duty to leave this warning.

'Pray for my repose, ye who find this, if ye be Christian men.'

"There's a few more scratches underneath," said MacGlennon, slowly. "Probably the poor devil tried to sign his name."

CHAPTER III

Encounter with the Unknown

MACGLENNON became silent, and his voice died away in whispering echoes in the depths of the cave.

Welford sat utterly motionless, his eyes fixed on vacancy. He looked hypnotized. Before them, the mute bones strove with one clawing hand toward

the sunlight. The tattered clothing that clung to the skeleton quivered and moved as cool air surged into the cave, bringing with it the sonorous requiem of the pounding surf.

"God!" said Welford, at last. "What a story!"

He rose to his feet, brushing his hands across his face, as though to clear his eyes of the dread visions they beheld, and strode out into the light. MacGlennon followed him. As they left the cave the full thunder of the reef broke upon them, like an organ-stop pulled out. The wind whipped at their hair, and the hot sunlight burned through their clothing. Gradually reality came back to them; Miles Trevichord and his grim and incredible tragedy retreated to the dead year that had known them, but still Welford seemed to hear that last appeal: "Pray for me, if ye be Christian men!"

"Great Heavens, Mac!" he exclaimed, striding up and down the narrow ledge. "What is this? Are we crazy? Is this island bewitched? Devils! Exorcisms! What's happening to us, anyway?"

"I don't believe in devils, Bob," said MacGlennon. "At least not the kind of a devil Captain Miles thought he saw. But I do believe this island harbors something stranger than anything we've ever seen. I felt it before we were on the beach. Something inhuman, incredible. It's here—and it's watching us."

Welford stopped his nervous pacing along the ledge. "You mean to say that you believe that whatever killed these men a hundred and fifty years ago is still here? Still alive?"

"Do you remember what that thing yelled at us from the cliffs?"

"S'rr'e." Bob pondered a moment. "Three or four syllables, wasn't it? It said the same thing when it came down

to our camp during the night. 'Mor . . . *Mor tevikor!*' Great God, Mac, you think—?"

"You've got it, Bob. It was saying, 'More Trevichord.' Do you remember, he said it called him by name? It must have heard the men speaking to him, and assumed 'Trevichord' to be the generic name for man. It must be the same creature. After all, there are animals that outlive man. Turtles, for instance."

"You think this thing's an animal?"

"I don't know what it is. But I don't doubt that we'll know more about it—soon."

Welford led the way back along the ledge, gun in hand. When they reached the summit of the cliff they searched the plateau with suspicious and wary eyes, but they saw no signs of life; the island seemed empty and deserted, but for themselves.

They walked on in silence, both men busy with their thoughts, until they came to the skeleton by the pool. Where before it had lain in the bright sunlight, it was now shadowed by the crumbling, low rock wall on the northern border of the pool. Their expedition had consumed most of the morning.

"I'm hungry," said Welford, with sudden realization.

MacGlennon grunted assent. "We'll gather fruit on the way down. And there'll be streams closer to the beach." He filled with water a gourd he had picked up in the cave. "This'll do till we find one."

ALTHOUGH they said nothing to each other, both men entered the wooded slope with tense nerves. The shadowed silence of the ancient forest engulfed them, sank them in green gloom across which an occasional bar of misty sunlight fell slantingly from

high in the dim, green roof of the woods.

Strange noises broke now and again through the heavy silence—a sound like someone chopping brought them to a simultaneous halt, and sometime later what seemed the distant laughter of women sent cool shivers racing over them.

But no horrific monster manifested itself. As they left the forest, however, their arms laden with the rich fruit they had gathered, they were both startled more than they would admit to come upon fresh tracks upon the beach. The few belongings they had brought ashore were roughly tumbled about, and MacGlennon's coveralls were ripped and torn as though handled by someone or something unfamiliar with them.

"You know, Mac," said Welford, staring at the incomprehensible marks, "I was just wondering if we hadn't imagined the whole thing. After all, Trevichord might have been delirious when he wrote all that. If it wasn't for what we've seen and heard here, I'd be sure of it."

"Aye," said MacGlennon. "Maybe we're both daft. But I'm not counting on it. Let's eat, and then get at the radio."

They waded out to the plane, and felt safer there, remembering Trevichord's statement that the demon would not enter the sea. All afternoon they labored over their radio, and by nightfall they had the receiver operating. Fortunately, no essential parts had been broken which they couldn't replace.

The small broadcasting unit was a more difficult subject.

The night was well advanced when, driven by thirst, they at last gave over, and set out for the shore. There was no word said about separating; they went together, Welford carrying an empty

gasoline tin, and MacGlennon with his automatic in his hand.

By the light of their flash they picked their way across the rough, sharp coral.

The two friends spoke seldom, and then in whispers. The white beach, as they crossed it, was ghostly, glimmering like pale cloth in the faint starlight.

They had to enter the fringes of the bush to get their water for as the shallow stream met the fine sand of the beach it sank into minor streamlets that deployed in shifting channels down to the lagoon.

With the gasoline tin filled they started back along an avenue of coconut palms. Dense shrubbery bordered either side.

MacGlennon was leading, an automatic in one hand, the torch in the other. Welford followed, carrying the tin filled with water.

With a suddenness that was breathtaking something whipped out of the shrubbery and snatched the torch from MacGlennon's hand. In the exchange the switch was thrown and the light extinguished. Almost coincident with the touch of the thing from the bush came the crash of MacGlennon's heavy automatic. Its brief blue flashes scarred the darkness as MacGlennon held down the trigger and sent the heavy slugs ripping into the cryptic night. The acrid odor of burnt powder drifted along the avenue of palms, eddied about them.

Welford had almost plunged into MacGlennon's back. For a long moment surprise held him speechless. He had seen nothing, was unaware that Mac had lost the flashlight to some unknown thing in the bush. Now he set the heavy tin on the ground, caught his friend's arm.

"What's the matter, Mac? Where's the light? What are you shooting for?"

He felt Mac's tense muscles relax

somewhat; the rapid barking of the automatic stopped as he released the trigger. Its echoes rolled over the listening island.

"It's here, Bob," Mac whispered through set teeth. "The Walker—it grabbed the flashlight. It's here in these bushes!"

THEY waited, listening, trying to see into the darkness.

"Who you? What you do here? T'evikor!" The hoarse, expressionless voice for which they had been listening suddenly spoke.

Mac's arm jerked up, but Bob gripped it tighter. "Wait," he whispered. "Wait. Let's talk to it."

From the bushes at their side a pale light seeped out. It grew stronger and brighter and soon they stood in a clear illumination, a light as bright as an electric torch, yet differing in quality—a strange brilliance curiously suggestive of sunlight.

The two men tried to peer past it at its source. But the light was too bright, and whatever made it stood deep in shrubbery. The light appeared to originate in a round lens not unlike a flashlight in size and shape. The lens was about five feet above the ground.

As they watched, their own flash came into view, gripped in a weird, segmented tentacle; a slender, gleaming, tapering thing that held their torch in the light, turned it over and over as though some one or something behind the light were inspecting it.

"Who and what are you?" demanded Welford, standing a little in advance of MacGlennon.

A curious purring sound came from the shrubbery, and the tentacle withdrew into the darkness, carrying their flashlight with it.

"I Ava-Stob-Ava," said the voice after a moment. "I wait for—wait for

masters come back."

It spoke very slowly, seemingly groping for each word.

"You T'evikor? You come in—come in thing in water?"

"We came in the plane. What are you? Where did you learn English? Where did you come from?"

Again there was silence, but for the faint purring. Then the voice creaked into sound again. "I wait for masters come back. Wait many time. Long. I Ava-Stob-Ava. Trobbercamb—I dig.

"Long many time I wait. Rocks wear away. Masters not come back. T'evikor come. I listen; learn English T'evikor talk. Now you T'evikor come. What is plane?"

"Plane?" said Welford. His mind was whirling, shaken with a horror of this incredible thing that was not human yet spoke. "Plane? A plane is a flying machine, a ship that flies. Are you the Walker? Did you kill Trevichord?"

"T'evikor call I Walker. T'evikor try go away. I kill T'evikor. I kill you you try go away."

Through all this MacGlennon had been silent. Standing in the shadow behind Welford he had been rapidly reloading his gun. As the thing they faced said, "I kill T'evikor," he thrust Welford aside, flung up the weapon and fired at the light.

Over the thunder of the gun there sounded a furious clangor, a bell-like reverberation as of blows on metal. The noise swept over the island, smashed the silence in a wild, nerve-shattering alarm. Startled birds sprang screaming into the air, their wings beating the foliage, adding a surf-like roaring to the din. With a sudden, swift movement Bob seized MacGlennon and flung him backward into the undergrowth, diving after him barely in time to avoid the charge of the Walker.

The light the Walker carried had

gone out. Whether destroyed by Mac's bullets or extinguished intentionally by its owner, Welford didn't know. He rolled sideways through the brush and came to his knees beside MacGlennon.

Their enemy was plunging through the bush behind them, and now Bob became aware of an ominous ticking sound emanating from the Walker. A fraction of a second later a blinding beam of light struck out—a white-hot, almost solid jet of living light. It flamed and was gone, leaving Bob's eyes seared and blinded momentarily, and bearing the fading impression of the flash.

Vegetation crackled and burst into flame. A scorched, burnt odor spread through the forest.

Silence fell back on the island. Bob crouched on his knees, peering, listening. Somewhere nearby the Walker stood, awaiting some sound that would betray their position. He clutched Mac's arm tightly, warningly.

Presently the first light the Walker had turned on them began to glow, grew brighter. So MacGlennon hadn't smashed it.

The creature was further from them than Bob had thought. It was deep in the bush on the other side of the path, while the two men were near its edge, crouched by the bole of a cocoanut palm.

The light swung round, splintered by intervening vegetation. It moved again, and broad leaves glistened and shone metallically as it passed over them.

A deep and resistless horror swept Welford in rapid, successive waves. Cold sweat formed and evaporated on his body, chilled him even in the warmth of the tropics. Human enemies he would have faced courageously. The great forces of nature he had met and fought as a mere part of the day's work. But here was something beyond nature, outside all experience: an alien thing

that moved in darkness, inhuman, unknown, a creature whose very existence was a mockery of reason and all natural laws.

His gun was in his hand, but he had seen that bullets affected the Walker not at all. Together he and MacGlennon crouched in the darkness and watched the Walker searching for them.

CHAPTER IV

Search for a Beast

AS the slow minutes passed it became evident that the monster was moving further away from them. Its light grew fainter and the crashing of branches died away. Once the blinding, incandescent bar of flame split the darkness; its vicious sibilance came to them faintly through the intervening forest. Probably a sea bird, disturbed by the Walker's approach, had stirred in the undergrowth and brought its doom upon it.

For long moments after the light had vanished and all sound had ceased, MacGlennon and Welford remained silent. Finally the Scot stood up, slid the gun back into his pocket.

"I'm going to kill that thing," said MacGlennon in a queer, strained voice, "before I leave this island. I'm going to kill it, if it can be killed. That's it—if it can be killed."

Welford stepped out into the path, picked up the tin of water. Nearby he trod upon their flashlight, dropped, probably, when the Walker charged them. He picked it up and thrust it into a pocket.

"Come on, Mac," he whispered, "let's get back to the plane."

The remainder of the night they passed in watches, and while Welford sat hunched on one wing of the plane, in the chill, black hours before dawn, he pondered deeply the situation.

A fear greater than that inspired by the prospect of their death under the blazing ray of the Walker held him. There had been something in MacGlennon's voice when he had spoken that last time in the forest that had chilled him; an odd tone he had never heard before. "—if it can be killed. That's it—if it can be killed!" What had MacGlennon meant?

Dawn came and he eyed his friend seriously, but the lean Scot said nothing further of their incredible encounter of the night. Instead he fell to work upon the transmitter with increased vigor.

By noon they had it working, deriving their power from the batteries of the plane. The signal they sent out was very weak. Atmospheric conditions would have to be at a peak of perfection to carry their call even a relatively short distance.

Welford was confident that no land station would pick them up. If they were to be heard at all, it must be by a ship. Would their signal reach any of the nearest shipping lanes? He didn't know.

MacGlennon had been very silent all day. It was evident that something beyond the radio occupied his attention—that he was pursuing some engrossing train of thought. A number of times he went to the door over the wing and stared at the island in silence. Bob watched him furtively.

Once he put down the pliers with which he had been working and said suddenly: "You know, Bob, the Pacific is the most mysterious ocean of earth. It's the largest—there are thousands of miles of water that have never been cut by the prow of a ship. It's old—ancient. And there are stories—yarns of the natives, and of the Indians of South America.

"Have you ever heard of Mu—of the continent that was supposed to have

been engulfed by the Pacific? Some say that the Incas and the Aztecs were colonies established by the inhabitants of Mu before it was destroyed; that they were left to revert to savagery, to gradually lose the knowledge which the people of Mu had taught them. Even up to historic times they had an exact knowledge of astronomy—their calendar was almost perfect.

"And there are ruins scattered around the islands of the Pacific that nobody can explain—wreckage of gigantic walls and buildings. These people that are here now—the Polynesians, Melanesians, Micronesians—came later; anthropologists say within the last one thousand years or less. Was there anyone—or anything—ahead of them?

"This island, now. It's evidently never been occupied by natives. There are no maraes—temple sites. At least, we haven't found any. I wonder if the Walker—"

THAT night the blazing dome of the star-set sky was blotted out by a great curtain of clouds that swept in over the island. It seemed limitless, unending, and for three days the low-lying, close-packed ranks rolled by overhead. Now and again a heavy, tropical downpour of rain came marching across the island, its loud drumming audible long after it had passed over the beach and advanced inland.

During this period of sunlessness they had no evidence of the presence of the Walker; the still, green forest echoed only to the rattle of the rain and the calls of the countless birds, and nothing moved upon the slopes of the hills that was not recognizable as a part of nature. The two castaways had yet to see the Walker by daylight—they had no knowledge of its appearance other than that offered by the manu-

script of Captain Trevichord, and the obscure vision they had seen in the night in the forest.

On the second of these days MacGlennon and Welford returned to the cave on the cliffs, and buried the skeletons of Trevichord and Willson on the small plateau at the summit.

MacGlennon recited from memory part of the burial-service-at-sea, and they marked the graves with two wooden slabs they had found in the cavern.

The remainder of the time, except for short trips ashore for food and water, they spent in operation of the broadcasting set. They used the receiver very sparingly, conserving their power for the transmitting unit.

Hour after hour they sent out their call, and now and again listened in. They received only scattered, broken fragments of broadcasts — messages from ships, parts of programs from Australia, and once, clearly, the call letters of a station in the Hawaiiis.

Throughout this time it was evident that MacGlennon was deep in whatever speculation it was which he had begun to expound to Welford earlier.

Occasionally he uttered an exclamation, as though some part of a puzzle had fallen into place, and once he slapped his open palm down upon his knee and jerked out: "That's it! By God, that's it! We've got to get close enough to locate the intake. . . ."

Bob, startled, sat up quickly. "Mac! What's the matter? What is it?"

The abstract look faded from MacGlennon's eyes.

"Oh. Not now, Bob. Later. If I were to tell you what I believe now. . . ." He shrugged. "But, by heavens, I'm right, and I'll prove it to you. There's no other answer."

WITH the fourth day came clear skies. The sun rose between the

shoulders of two hills, and the lush forest of the island steamed in the warm rays.

The shadow of the island shrank back from the plane as the sun crept higher in the sky and the damp chill melted under its heat. When noon came MacGlennon snapped off the transmitter switch and rose to his feet. Welford watched him in growing surprise as MacGlennon carefully loaded his automatic and slipped some clips of ammunition in his pocket.

"Where are you going?"

MacGlennon turned. "I'm going hunting, Bob. Going ashore and get a look at this thing. I'd like you to come with me, but it's up to you. I've got to get a look at the Walker—a close look. And I think I will today."

"Mac! You're mad! You're stark, raving crazy! You'll be killed! Great God, man, don't you realize what you're saying? Close to the Walker! Don't you understand that thing can kill you as you would a fly? That you've no defense against it at all? That gun—what good is it? You might as well throw rocks at the Walker. I can't let you do it, Mac—it's utter madness!"

MacGlennon listened to the tirade without a change of expression. When Welford paused, he nodded.

"I know you think this place is getting me; that I'm going soft in the head, Bob. I've seen you watching me. And I can't tell you what I'm thinking, because you'd be sure of it then. But let me ask you something else. Where's the end of this trail? There's not much chance of anyone picking us up. That means we're going to stay here—and the Walker's staying, too. He's been staying a long time already—God, when I try to think how long! And you're proposing that we play cat-and-mouse, with you and I as the mice.

"Day after day, creeping, hiding,

sneaking ashore for water and a few coconuts, until one day he catches us away from our mouse-hole and does for us.

"And this plane won't last forever. After it falls apart there's nothing left for us but Trevichord's cave. You've read of how they made out in that kind of a game with the Walker—you know what the end would be. How long do you think either of us would stay sane living like that?"

"I'm not having any of that, Bob. I've got a theory about the Walker and if I'm right we may be able to kill—to destroy it. But I've got to get a close look at it—to find out something. I'd like to have you with me, but if you won't come—well, I'm going alone."

Mac waited, watching Welford's thoughts mirrored in his changing expression.

"Suppose somebody— A ship might come, Mac. It might come soon. We don't know. Maybe we could get away from this damned place next week or the week after. Why not wait for awhile, and then, if no ship comes, we can go after the Walker."

"I think you underestimate our friend, the Walker," said Mac, calmly. "He doesn't want us to get away—probably because he doesn't want the outside world to know of his existence. It's true that Trevichord says he won't enter the sea, but it wasn't necessary for the Walker to do so to kill them. He knows this plane's wrecked—we can't get away in it. But if a ship came here and sent a smallboat in, it wouldn't surprise me to see him wading out to us. What you're suggesting is that we call men here to their death. And it's even possible that the Walker may have some method of reaching or striking at a ship anchored beyond the reef. I'm going after him now. Are you coming?"

Welford stared through a window at the deceptively peaceful green of the island. It seemed impossible that that quiet foliage cloaked a lurking, horrible death—and yet as he watched he sensed again that air of mystery, that untamable, alien quality the island possessed.

He glanced at MacGlennon's waiting, incommunicative face, and sensed somehow the irresistible drive behind his resolve to destroy the Walker. Abruptly Welford realized what that drive was—the instinctive reaction against anything which challenged Man's dominion over the earth.

And however right or wrong the theory MacGlennon had formed, his arguments for immediate action were unanswerable. Better to face the Walker now, and let the issue and their fate be swiftly decided. And to call others here to die in like fashion was miserable cowardice.

MacGlennon made an impatient movement. "Well? Are you coming?"

"Of course I am." Welford sprang to his feet, looked to his own automatic, and slipped fresh cartridges into a pocket. He added a knife and a flashlight, and then followed MacGlennon, wading shoreward through the shallow lagoon.

CHAPTER V

Lair of the Walker

AN hour later, high on the slope of one of the southern peaks, the two men halted to survey their surroundings. The terrain here was rough and broken. Huge boulders were scattered everywhere upon the slope.

Far below, the island lay spread out, curiously diminished, its green ridges and hills small with distance. Over it circled and planed tiny dots that were sea birds, and its foaming reef encircled it like a setting of tiny pearls about

an emerald. Beyond all, dominating all, was the blue plain of the sea, immense, flawless, and utterly empty.

MacGlennon swept his glasses over the lower slopes, and then, slowly, across the entire island. He lowered them with a grunt of satisfaction.

"He's up here somewhere." Unconsciously he spoke in a subdued voice. "In among these boulders—or higher, up in the old crater, probably. Come on, Bob, let's get up there."

"Mac. Look." Bob was staring up the slope, up through aisles between the shapes of stone. "There's something up there—something that shines. It looks like metal. See it?"

MacGlennon followed his pointing arm. He could see something, a dazzling, blinding spot of light, like the reflection of sunlight on metal. It was some distance away and hidden by intervening rocks. Without motion, it gleamed steadily on, the light flickering only when they changed their position.

"The Walker," breathed Mac, and began a slow, cautious stalking of the object. Bob followed him. Taking advantage of every rock and crevice they crept silently toward the spot of light.

Thin grass grew here. Tiny lizards, basking on the hot stones, scuttled from their path as they approached.

The sense of a deadly presence bore in upon the two men. The silence became tense—ominous—nerve-straining. As they came to each new boulder and peered cautiously around it, they were prepared for some horrendous vision, some monstrous thing that would be awaiting them, waiting to strike with unearthly weapons.

But the still, hot, sunny silence remained undisturbed. The thing they had first seen was now invisible, hidden by the rocks, but MacGlennon had carefully studied the region around it, and was directing their course toward

the position he knew it occupied.

As they neared it they moved even more slowly. At last only a line of huge, time-shattered boulders stood between them and the spot where they had last seen the gleaming enigma.

Bob entered a narrow canyon in the crumbling rock which appeared to lead in the right direction, but MacGlennon pursued him and caught his arm.

"Up on top," he whispered. "Get above it."

In the canyon, where the sun did not penetrate, the seawind was dank and cool. Its rustle and whisper against the rock walls drowned out the faint sounds the men made as they climbed them. To the summit was a distance of ten or twelve feet, and they attained it with a minimum of noise.

They lay flat on the sun-heated rocky surface and listened, strained their ears to the whispering silence, trying to detect some sound.

There was nothing. Not even the shrill cries of the sea birds reached this lonely height.

Together they inched their way forward, crawling to the end of the boulder, and peered down into the sunny hollow of which it formed a side.

The floor of the hollow was higher than the ground outside, and carpeted with a lush grass. As its rocky walls were no more than six feet in height, and it was all of twenty-five feet in diameter, the sun beat down into it in unimpeded and smothering waves of heat and light.

And in the center of that hollow, in the full flood of torrid sunlight, stood—something.

IT was roughly a rectangular box, about five feet in length and two by its other dimensions. It was mounted on four slender legs, and the whole thing was undeniably metal, for it glis-

tened in the sunlight like polished gun-metal.

The surface of the box was studded with knobs. In places were raised spirals, tightly coiled. On the upper surface were several small, flat domes ringed with what resembled tiny ports. Otherwhere all over it were scattered incomprehensible bulbs and extensions, some of which appeared to be made of glass.

One end of the box was toward them, and on its face were queer characters—red hieroglyphs set between two flat coils that looked like cable. Directly in the center of its upper surface was a lens-like disc of bright colors. The disc was about four inches in diameter, and Bob thought he could see a curdling going on within it—a slow swirl of color that eddied and flowed deep below the surface.

Save for this enigmatic and almost imperceptible flux of color, the thing was absolutely motionless. It stood as though rooted in the soil of the hollow, and, in fact, the narrow, pipe-like legs did vanish in the tall grass.

For long minutes the two stared at the thing, too astonished to speak. No sound or movement but the soft and fluctuant hiss of the sea breeze disturbed the weighty silence—the heat poured down upon the amphitheatre in an almost physical tide, and the strange structure in the centre seemed to absorb it, drink it up.

"What—what in God's Name is it, Mac?" whispered Bob, at last.

MacGlennon didn't answer. Instead he slowly and cautiously advanced his automatic until its steely barrel bore directly upon the thing below.

Seconds passed, then Mac lowered the muzzle of his gun. "The angle's too great," he whispered tensely. "The bullet might ricochet. And we daren't miss—we daren't miss. We'll have to get di-

rectly above it to kill it."

Sudden wild terror flooded over Welford. He sprang to his feet.

"Mac!" he cried. "Mac! That's only a hunk of tin. That's not alive—"

"For God's Sake, Bob, get down! GET DOWN!"

Bob saw MacGlennon reach for him, and in that instant the somnolent, flawless peace of the mountain peak was shattered as by the legions of Hell. A savage roaring that burst from behind him Bob dimly recognized as the voice of the Walker; faintly a ticking sound punctuated the unintelligible uproar, and then that blinding beam of white-hot radiance struck past him, splitting the air with a grating, hissing shriek of power. A wave of swelling heat rolled over him and in the next second Mac had tumbled him from the rock and they were racing along its base.

Into the narrow, rocky canyon they plunged—the canyon from which they had climbed to the summit of the rock—to trip over the loose debris and plunge headlong just as a second blast of living light smashed above them to crack and splinter the rocks beyond.

The canyon bent and angled into the mountain, sinking deeper as it progressed. MacGlennon wasted not a second, but dragged his befuddled friend to his feet and hurried on, following the sharp twists of the defile with what speed they permitted.

The canyon terminated abruptly in a raggedly circular aperture in one wall. Without hesitation MacGlennon shoved Bob toward the gaping black hole, forced him into it. An instant later—and not a second too soon—he followed him, as the white, killing light of the Walker crashed down into the canyon floor.

Together they crouched in the darkness and got their breath. They could hear the Walker moving about on the

rocks above them; the canyon was too narrow and winding for the Walker to penetrate, but it had followed the canyon's course over the surface of the rocks and now proceeded to rake every corner of its terminus with the incandescent light-beam. Rocks cracked sharply; burst, flung rock-splinters to spang against rock; the heat was killing, and the air laden with an odor of burning.

WHEN the beam had not slashed out for several minutes Mac uncovered his eyes and peeped around the shoulder of rock against which they crouched. The opening of the low tunnel was slightly above him, but he could, by stretching, peer out on the canyon floor. It was blackened, burnt—not a twig remained. He saw with astonishment that rocks had been actually fused, melted.

"That—that *thing* was the Walker!"

Welford's dazed voice drew MacGlennon's attention from his survey of the canyon.

"Yes. I was sure it was a machine."

Welford was silent, recovering from the surprise of the last few moments. The Walker—a thing of metal! A dully gleaming box on pipe-like legs!

MacGlennon picked up a loose rock and tossed it out—and almost as it fell to the canyon floor they were blinded by the Walker's bolt of light.

Instinctively they drew further back into the narrow passage, and, in the blackness, tumbled unexpectedly down a short slope.

"Got your flash?" asked MacGlennon, picking himself up.

Bob tried it, but the torch, broken in some way in their wild flight, refused to light. MacGlennon struck a match, and by its feeble light they saw that they stood in a narrow, low-roofed tunnel, which, in one direction, led downward

into darkness, and in the other, up to the small entrance.

As the match winked out a faint purring became audible, and then the hoarse voice of the Walker boomed hollowly in the tunnel.

"You T'evikor. Come out. Now time I kill."

"Mac!" Bob's voice was tight. "What is this thing? If you know—if you have any idea, tell me, for God's Sake!"

"Not now. Wait. We've got to destroy it—"

"But how? How?"

"There's not time to explain, but if I'm right we can smash the Walker, stop it forever. You saw that lens on its upper surface? I believe if we can smash that—drive a bullet into it—the Walker will be stopped, done. And if that's a lens it may be weaker than the metal body. It must be. If we can fire from directly above it—at short range—I think a bullet will do the trick. At least, it's our only chance. Is your gun O. K.?"

Before Welford could answer, the Walker spoke again.

"T'evikor. I tell you come out, T'evikor."

"What are you?" called Bob, advancing a step or two. "Where did you come from?"

"Be careful," murmured Mac, drawing his friend back behind a buttress of rock.

There was silence for a while, then a sharp cracking as rock fractured. Peering out the two men saw the Walker stationed before the entrance to their tunnel, several tentacles moving over the surface of the rock as though examining it, testing its texture.

Then the purring which invariably preceded speech on the part of the Walker became audible, and it announced: "I trobbercamb—trobbercamb. I dig.

I not come. I here. Long many time I here. I wait for masters come back. You T'evikor come out."

"Who are the masters?" asked Bob. "Where are they? Where did they go?"

"The masters," began the Walker, "the masters . . ." A definition of the masters in English appeared too much for the metal monster. It fumbled and broke off into a confusion of sounds utterly unintelligible to the two men. "Cabbervar toh mirch . . . velisance . . . toh cabbertion indle spard. Dantion trobbercamb Ava-Stob-Ava." Abruptly the Walker reverted to its halting English. "Masters go away. Many, many away. Go Varvarwendal. You T'evikor come out."

"Why did you kill Trevichord? Why do you want to kill us?"

"This place masters' place. Cabbertion. You T'evikor come back more T'evikor. No. I kill T'evikor, I kill you T'evikor. Master come back no T'evikor here. Ava-Stob-Ava here. Come out."

"Are you alive?" asked Welford.

CHAPTER VI

Trapped

EITHER the question had no meaning for the thing in the canyon, or it had wearied of the exchange.

"You no come out," its hoarse, expressionless voice announced. "I kill now."

Mac and Bob crouched back against the tunnel wall, expecting the light beam to strike past them. Nothing of the sort happened, although the purring halted and the familiar ticking began, but at a much slower rate.

They peered cautiously around the buttressed angle in the tunnel. The Walker stood as before, squarely before the entrance. No tentacles were mov-

ing, but a light flooded over the rock of the tunnel's entrance, a light not one hundredth as bright as the blinding bolt with which they were familiar, but of the same peculiar quality.

They stared at it, conscious of a tantalizing suggestion of opaqueness in the illumination. When they glanced away the retinas of their eyes retained a sensation of redness, although the light itself was of a yellowish-white hue.

The temperature of the tunnel was rapidly increasing, and a taint of something like sulphur became noticeable.

"What now?" whispered Bob. He struck a match, and beheld his companion's face tight-drawn in frowning concentration. Sweat trickled down his gaunt cheeks, to lose itself in the thickening beard.

With a suddenness that knocked the match from Bob's hand, plunging them into darkness, MacGlennon gripped his friend's arm.

"By God, of course! The digger. Come on, Bob! Be quick, man, be quick!"

He started down the passage, down into the unrelieved blackness, dragging Bob after him.

"What is it, Mac? What's the matter?"

Without stopping, feeling his way forward, one hand against the wall of the tunnel, Mac spoke over his shoulder: "There may be pits or faults, but we'll have to chance it. Keep hold of me, Bob. God knows where this leads, and we mustn't get separated."

"But what is it, Mac? What are we going down here for?"

"Don't you see? The Walker—he calls himself the digger. The digger—that light. Don't you get it? He's melting the very damned rock! If we'd waited much longer a stream of lava would have been pouring down on us. If this is a blind tunnel we're sunk. Let's

hope there's an outlet somewhere else."

They went on, as fast as they could in the darkness, stumbling, tripping. The tunnel led steadily down, angling seldom. And the warm air and the sulphurous odor followed them. Glancing back, Welford thought he could still see a pin-point of light, the entrance. Then he realized that twice the passage had angled slightly. The entrance was invisible.

He halted, pulling MacGlennon to a stop. Behind them the darkness was not quite so deep. It was faintly red.

"It's started," said MacGlennon quietly, "and now we're in for it. Let's go, Bob. In a little while," he added, grimly, "we should be able to see better."

Bob Welford fought down a wild desire to turn and run back, to take his chances on getting past anything that blocked his way to the surface. To die in the sunlight was one thing—but here, deep in the earth, in blackness. A soul-shaking horror welled up in him; the surrounding rock seemed suddenly pressing in, crushing him; the darkness a physical enemy.

THEY pressed on. The air was getting thick, and the heat oppressive. The only sound was the clump and rustle of their feet.

And then it began to get lighter. The rocky walls began to take shape in a reddish gloom, and they were visited with a new and horrible torture, for as the fiery glow strengthened their field of vision extended, they could see the tunnel beyond them, and each slight angle seemed its terminus. What lay ahead? A blank wall of rock, a pit where they must stop, and await the molten death that slowly but inexorably followed?

They were moving faster now that they could see, and came more quickly

to the angles. Each they approached with growing hopelessness. At the last moment it would reveal the tunnel extending further, its course slightly altered.

The unwavering, cherry-red light grew stronger, the air more foul. Both men were panting, breathing in quick, short gasps—a sign of diminishing oxygen.

They were stumbling more often, and in their eyes the crimson walls of the tunnel were unstable, wavering. Heat beat at them, tortured them.

It was Bob who first noticed the movement of the air around them. A slow current came from behind, bringing a greater heat, a trace of smoke, and a more powerful odor of gases.

Dimly he wondered at it, staggering along the hellishly illuminated passage. He still gripped MacGlennon's belt, and pulled at it, tried to tell his friend of his discovery, but his voice was no more than a croak, and MacGlennon, slipping toward unconsciousness, had fixed his fading energies on the single purpose of moving forward.

Then MacGlennon went down, and this time did not rise. His limbs made slow, awkward movements on the uneven floor. Bob fumbled at him, tugged at him, somehow turned him over on his back.

MacGlennon's eyes, turned to the roof of the tunnel were glazed and dull, but as he stared up they gradually sharpened and focused.

Feebly, dully, but doggedly, Welford tried to drag him to his feet.

That black spot in the roof. He struggled weakly, and aided by Bob, got himself up on wobbling legs. Clinging to the rough wall, he stared at the spot in the roof of the tunnel.

There above was a cavity, a chimney fault leading up into blackness.

They got up into it—by what super-

human efforts they never remembered—just as the slow, red-hot, but cooling stream of lava entered that part of the tunnel. They would have collapsed on the little shelf they found just above the roof, but the fierce heat from the lava, as it crept beneath the fault, flayed them, drove them on.

The walls of the narrow shaft were rough and irregular, and the fault itself far from the perpendicular, or they would never have made it. When they fell they were caught by the unequal configuration of the walls, and when exhaustion overcame them they had merely to lie flat against the rock.

At last MacGlennon with a wordless croak, tumbled out into sunlight, turned and helped Welford from the pit, then collapsed in a bruised, burnt, tattered, grimy heap on the bare rock of the surface. Welford fell beside him, conscious only of the exquisite sweetness of cool air, of the soft cool fingers of the sea breeze. Behind them, from the fault, a trickle of smoke drifted up, to be caught and swept away by the wind.

WHEN MacGlennon recovered sufficiently to open smarting eyes to the cool blue of the sky, his first thought was of water. And from somewhere nearby he could hear its trickle and gurgle, an irresistible call that dragged him to his feet and toward the nest of boulders from which the sound came.

They were much lower on the slope of the little mountain, he discovered, when he looked about him.

He cupped his hands and brought water to Bob, splashing it over his face. With his help Welford got to the spring, and after he drank, they took off their torn, charred clothing and splashed the water over themselves, then did what they could toward washing their clothes.

While their garments dried in the hot

sunlight they examined their surroundings more closely.

They were on the opposite flank of the mountain to that they had climbed. The terrain was just as bare—huge boulders, lines of old lava flows, a surface of black, volcanic soil and sharp fragments of obsidian. Here and there a stunted pine struggled valiantly with an antagonistic environment, and small, delicately beautiful mountain flowers peeped from crevices in the rock.

Again they were conscious of the museum-like stillness of the island, intensified here in the high places to a monumental calm, but after the crushing silence of underground it had lost much of its sinister quality.

When their clothing was dry, and they were once more dressed, Bob said: "I wonder where the Walker is? Do you think we can get back to the plane without meeting it?"

"We're not going back to the plane, Bob. At least, I'm not. The Walker remains to be smashed, and he's here—near us somewhere. If you're with me, we'll make our play, and bust him—or he'll get us. That's what we started out to do, and that's the play I'm making."

Welford drew out his automatic and examined it carefully.

"O. K., Mac," he said quietly. "Let's go. And we'd better get started. It's getting late."

"We won't have to go anywhere. Don't forget he's hunting us. Got a match? I used mine up in the tunnel."

Welford handed him a pad of matches and watched silently while MacGlennon broke some of the limbs from a nearby pine and heaped them together on the rocks. He took his cigarettes from their package and pushed the paper under the wood. When all was ready he stood up.

"Here's the plan, Bob," he said.

"You see those boulders? You'll notice the two of them are standing close together. The aisle between them winds round and comes out further down the slope. I went part way down it when I went up to the spring the first time. Right behind that boulder is another one. You can see it from here. It's flat on top, and anyone lying up there would be invisible from the ground. It's just the place I've been looking for.

"Now. You get up on top the boulder. Lie flat, but be ready to move like hell when the time comes. I'll light this fire, and when the Walker sees the smoke, he'll head this way. He can't be sure he got us down there, and he'll come to investigate. I'll be standing between the two boulders. When he comes for me I'll make a dive past the rock you're on. He'll have to pass right under you—the aisle's too narrow for him to swing wide. And then you shoot—for the lens, remember. You'll take my gun, too, and let him have all the slugs you can throw. And if I'm right the Walker is going to stop walking—for good."

HE snapped open the cartridge chamber of his gun, made sure it was loaded, and held it out. Welford made no move to take it.

"Well? What's the matter?"

"It's all O. K.," said Bob, "but one thing. How did you get nominated to be bait for this damned tin killer? I'm to sit comfortably up on a rock, out of the way, with both guns, while you, unarmed, let this monstrosity chase you? Nothing doing, Mac. Think of something else."

"Just a minute, Bob. Think it over a minute. You think this set-up lets you out easy? Suppose the Walker gets me. Suppose I'm wrong, and you can't smash that lens—or you miss. In that case, it's just you and the Walker from

then on—unless he gets you, too. Just you and the Walker, Bob—here, alone. And you not knowing when it's coming, day or night. Old Captain Trevichord told us what that was like.

"No, Bob, I'm taking the easy part. Besides that, you're the better shot. Come on, let's get started."

After some further argument Welford reluctantly allowed himself to be led along the aisle between the boulders to the high, flat rock that overlooked it.

MacGlennon climbed it with him, saw that his plan was feasible. When satisfied, he turned to climb down, then halted, and, with a trace of self-consciousness, held out his hand. Bob gripped it tightly. The two men stared long into each other's eyes.

"O. K.?"

"O. K., Mac."

The lank Scot dropped quickly down into the aisle between the boulders, where the shadows were already beginning to gather. He moved along it slowly, clearing it as best he could of loose rocks and bits of timber.

The chill damp vanished as he stepped out into the sunlight. He noted the sun's position. There were still hours before sunset—plenty of time.

He struck one of Bob's matches and touched it to the cigarette package. It caught and flared up. He piled on dry wood he had picked up among the boulders.

When the little fire was crackling energetically he piled on the greener wood, then returned to the entrance to the aisle, took up his position between the two boulders. He waited.

CHAPTER VII

Can the Walker Be Killed?

THE sea wind whispered among the rocks, the fire crackled. Other than

that the soundless peace held everything entranced. To MacGlennon, a hushed expectancy was added to the heavy silence. The whole island was waiting, in the reddening sunlight. Its green slopes, dropping away from him, were motionless, tense; the darkening sea a flat calm.

A trickle of thick smoke worked its way through the green branches, climbed sluggishly and was caught, whisked away by the wind. It came thicker, darker, less easily dispersed. Then it stood above him, a defiant, black scrawl against the soft blue of the sky. A challenge.

MacGlennon waited. Every sense was alert, taut. His grey eyes scanned each boulder in turn, darted from side to side, alert for the slightest movement.

There came the sudden, clear clang of metal.

MacGlennon froze, staring. Far down the slope something moved. A sapling pine was twitched aside and the Walker stepped forward into the sunlight, gleaming, polished.

It was in no haste. It stood there, expressionless, unrevealing, apparently surveying him. It was too far, he hoped, for the light-beam. It would have to come closer. It *would* come closer.

But how near dare he let it approach? His eyes ached from the furious concentration of their gaze. Half-crouched, his sweating palms against the rock walls, he waited.

The Walker went into motion with a military precision. It advanced without hurry, and without hesitation. A tentacle suddenly sprang out of its coil on the flat fore-end of the thing. It motioned, curling and waving, in a weirdly insectine manner. In the tiny ports set in the front end the sunlight picked out deep lights like the spark in a living eye. The curious, red hieroglyphics—also on the fore part—shone

with a crimson luster.

MacGlennon waited, although his legs ached to run. The Walker steadily advanced.

Without warning, with no sound, the metal thing launched itself forward. In great bounds, clearing the dwarf pines and low boulders, it came up the slope. A clock-like ticking began.

Mac waited no longer. Like a sprinter from the mark he plunged into the shadowy aisle. The light-beam smashed and crackled against the boulder where he had stood.

WELFORD lay flat on the rock, the sun beating on his back. He knew he had not been waiting long when he heard the crash of the light-beam, but it seemed an eternity. During those few minutes the silence of the island had become baleful, malignant.

With the crash of the light-beam a frightful doubt stormed over him. Had Mac been . . .? The sudden, swift, wild clatter of his friend's footsteps reassured him.

Forgetting instructions, forgetting everything, Bob surged to his feet with an echoing yell, answered, to his surprise, by a booming, reverberating clangor from the Walker.

The sound warned him, and he crouched low. MacGlennon tore past, hidden by the shoulder of rock, and close, dangerously close, came the Walker. It had evidently determined on a kill this time, for it charged heedlessly through the narrow aisle, its metal body slamming into the rocky walls at each turning.

Bob straightened, legs wide, the two guns, pointing down, seeming to strain forward in his hands.

The Walker crashed into the wall, slued into view, grotesque, bizarre, a being unbelievable. There, below him, was the vital lens. Bob fired.

The world dissolved into chaos. A golden fountain of light smote him. It tossed him aloft. An agony ran through him; then he dropped into darkness.

MAC GLENNON, when he passed the rock on which Bob lay concealed, slackened his pace. He knew if their plan failed there was no hope, no need to run further. And he was sure it would not fail. Bob was a marksman, and if bullets could pierce that lens the Walker's time was ended.

He heard the bell-like clanging as the metal body collided with the rock. And then the sudden thunder of the guns. The next instant there was a dazzling flash of light, and a terrific explosion lifted him, flung him forward, battered him with bits of rock and flying debris. He fell sprawling, rolled over and over, to come to a jarring stop against the foot of a boulder.

Dazed, he lay there while the echoes rolled across the island; while the shaken air slowly settled.

MacGlennon rolled over, sat up. His brain began to clear and he stood up gingerly. No bones broken, but he was sore and bruised all over, and had a nasty cut over the eye.

What had happened? Where was Bob? The Walker? He stumbled toward the spot where the flat-topped rock should have been, but the scene looked unfamiliar. Broken fragments of rock tripped him. Abruptly he stumbled over a length of metal. He picked it up, stared at it uncomprehendingly.

At one end it was burnt, scorched; at the other, grey—a polished, glistening gun-metal.

Slowly MacGlennon's eyes widened and his hands tightened on the mute fragment. He lifted his head and stared about him, then began to run.

"Bob! Bob, where are you? We've

done it! We've smashed the Walker!"

He almost fell into the pit, with its litter of unearthly, incomprehensible bits of shattered machinery. Destruction was everywhere—boulders were smashed, splintered, split. The earth about the pit was blackened, raw; rocks were fused.

The flat-topped boulder was now two, split clean across its centre, as though a gargantuan knife had sliced through it. Its face was pitted, mutilated, scarred by heat, and bits of shapeless metal were driven into it.

It took him long anxious minutes to find Welford—twenty dreadful minutes in which he dared not think of what he might find. And when he finally found him, more than twenty feet from the boulder, he thought his worst fears were realized.

Bob was lying in a hollow, a small pine crushed under him. His shirt was all but ripped off him, his eye-brows and short beard burnt almost away. A sliver of metal protruded from one shoulder, and he was bleeding from a score of minor cuts.

MacGlennon sprang to his side, placed a hand on his chest, and felt, with a gasp of thanksgiving, the strong beat of his heart.

That sliver of metal— If he pulled it out, would Bob bleed to death? But it would have to come out—it couldn't be left there. It was deep, and tightly embedded, high in the shoulder. Too high for the lung, thank God. While these thoughts raced through Mac's mind, he was pulling gently at the dagger-like splinter. It yielded at last and came out, and was followed by surprisingly little blood. Mac sighed with relief. No vein or artery touched.

He got water from the nearby spring, tore his own shirt into strips for bandage. For an hour he worked over the unconscious man; all efforts to revive

him were in vain.

It was nearing sunset. The globular, dull-orange sun hung like a ripe fruit above the empty edge of the sea. Although the wind was dropping it was getting colder.

MacGlennon got Bob's limp body across his shoulders and started down the slope.

They stood together on the beach three days later. The sun had set, and the swift, tropic darkness was already closing over the vast world of sky and water. MacGlennon stared out into the indefinite distance, watching the deepening indigo of the sea, and the purple approach of night.

"How about telling me this theory you've had about the Walker?" asked Welford. "You were right—we smashed the thing, but what was it, Mac? What in God's Name was it?"

"Haven't you guessed, Bob? You know what happened when your bullets smashed that lens."

"You mean—you mean, the thing wasn't alive at all? It was only a machine?"

"What else? A robot. But by God," his voice deepened with respect; "what a piece of machinery the Walker was. Why, Bob, that thing could think! Whatever master craftsman built the Walker—"

"But that's it, Mac—nobody could have built a thing like that. We don't know enough. It's impossible."

"We don't know enough, but the Masters did."

"The Masters —?"

"The Masters the Walker mentioned. Those he was waiting for."

"Who were they?"

"Yes. Who were they?" MacGlennon's voice was low. "Listen, Bob. Here's the story as I piece it together. Little by little I was picking up the threads — from Trevichord's manu-

script, from things the Walker said, from what I saw and what I know about this region.

"Remember what I said about the mystery of the Pacific? It's ancient, Bob, ancient. There are men who claim that the Egyptians, the Mayas, the Aztecs and Incas were nothing but colonies that Mu had established before it sank under the ocean.

"They say Mu was a country of tremendously advanced knowledge, and there's no doubt that those civilizations of Central America, that appeared so suddenly in the heart of the jungle, had an excellent knowledge of astronomy. According to these men, the colonies of Mu—Egypt, Maya, and the others—gradually sank back to barbarism, after their mother country was gone.

"There's no question about the inexplicable wreckage scattered around the Pacific—ruins of huge walls, broken obelisks, parts of indecipherable inscriptions, and queer statuary. They're still to be seen on some of the islands. Where did they come from? Who built them?

"Maybe the people of Mu. I don't know. But somebody, or something, was here. That's what I'm trying to establish. Far back in the past something was here in the Pacific—and that's what I started with when we met the Walker.

"When we read Trevichord's story, I was inclined to think as you did—that the man was delirious. But there was too much evidence backing him up. The thing that spoke to you at night; the tracks in the sand; the thing that yelled at us from the hill; and last, the burns on Trevichord's skeleton. Before we left that cave I was convinced we were up against something—something nobody but Trevichord and his men had ever had to face before.

"I knew it was unlike anything else.

It was not human, but it spoke to us—and it had lived for at least one hundred and fifty years, for it called us Trevichord.

"Then that night it went after us and I shot at it. Do you remember that shot? That's what tipped me off to the truth. When I fired and hit the Walker it rang like metal. And I knew I had it. Nothing else would explain the fact that the thing had survived the attacks of Trevichord's men, unless you wanted to believe in evil spirits.

"It wasn't alive. It was a machine—a robot. Trevichord himself told us so, when he described his own fatal last encounter with the Walker. He said he attacked it with his cutlass, after firing both pistols in vain, and that it was like striking at steel.

"Well," went on MacGlennon, "there were some things that didn't tie in very well with the idea of a marvelous machine running loose on the island. What kept it going, for one thing? It had to have fuel, and there didn't seem any place on the island where it could get it. There were other things that I managed to reconcile, but that matter of fuel had me down.

"And then, one afternoon in the plane, when we were shooting our call out, it came to me—I knew I had the answer.

"What would the builders of the Walker use for fuel? To build a thing like that they had to have knowledge that would make our scientists, our brainest men, look like witch-doctors.

"They'd take the best source of fuel we know, the one that's always ready, always there—right overhead. The sun!

"You know we can generate power from sunlight. A square sheet of copper, twenty feet on a side, coated with an alloy of selenium and silver, will generate a horse-power of electric

energy. Cumbersome, impractical, and costly. But with the brains that built the Walker working on it, it wasn't anything like that. They did it with that lens on the Walker's back. That was his mouth, if you want to call it that, and he ate sunlight. Remember how we found him, standing there in the full flood of sunshine?

"There it was. I had it all. All I had postulated was the lens. I had to see the back of the thing to be sure of that. And that was the reason I wanted to get close to the Walker. After I saw the lens I just gambled that we could smash it. It was a foregone conclusion that, with his fuel gone, the Walker was done. I didn't expect the explosion, but I should have. I'm sorry I let you in for that, Bob."

"Forget it, Mac. Good Lord, how could you know that! I think you did well to work out so much. And so you think the Walker was built by the inhabitants of Mu, or some race, far advanced in knowledge, that lived here in the Pacific thousands of years ago?"

"Aye. Perhaps these islands of the Pacific were the scene of a great ancient empire. Can't you picture it? Strange cities rising where now there is only jungle—strange machines, strange men, erecting the civilization of another age.

"And then something happens, and they go, and never come back. The giant walls crumble, the cities fall before the years, and the sun and the storm that they bring. The jungle creeps back. Islands sink and rise, and volcanos burn or bury the wreckage. And now there is nothing left but a few shards, a few piled stones, and some broken columns, and inscriptions we can't read.

"Maybe that's the story. Maybe they had mines here. That's what the Walker was for you know. He said he was a trobbercamb—a digger. In other

words a digging machine. And when you asked him where he came from he told you he was here. I think he meant he was built here. Further, he said he was called Ava-Stob-Ava. I don't think that was a name—I think it was a number. It sounds like a number, because the syllable 'Ava' is repeated; for example, as in 707. That would mean that there were more like him, or he was one of a number of different types of machine. Maybe he was forgotten,

or deserted, when his builders went away.

"But all that's just guessing, Bob. But one thing I know. We have glanced down a door Time left open, and seen and spoke to Mystery, and the remote past. But let's get back to that radio. I've rigged up a hand charger for those batteries. We ought to be able to get a little distance now. You signal and I'll turn the crank."

THE END *

« COST OF ATOMIC POWER »

Now that scientists have succeeded in releasing some of the vast stores of energy locked in the atom, there is considerable speculation concerning the use of atomic energy as a source of commercial power.

No way has yet been discovered to harness that power, but no one doubts that the scientists will soon turn the trick. That is probably the truest part of all the popular beliefs about atomic power.

People have been led astray by such statements as "the energy locked in the atoms of a bucket of water could drive an ocean liner across the Atlantic." That is correct—but only theoretically so. Physicists have only released *part* of the energy of *some* types of atoms—and it is on the basis of what they have actually *done* that the cost of atomic power must be figured.

Splitting uranium atoms produces a "free gain" of 200,000,000 volts—which is a lot of power. In fact, four grams of uranium are equal in energy to a *ton* of coal!

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The UNDERGROUND CITY

CHAPTER I

Disappearing Miners

By

**BERTRAND L.
SHURTLEFF**

PRESIDENT OGILVIE of the Mount Cintron Mining Company stared hard at the alert young man who was watching him across his desk. There was so much incredulity in the youthful face that he was unable to go on. Twice he half opened his mouth as if to blurt out something, only to close it again, look disconcerted, and shake his head.

"You won't believe it," he spat out at last. "Nobody does. The widows are clamoring we're too tight-fisted to

uncover the bodies of their men. The union officials are howling. The mining commission is threatening action—"

He shrugged hopelessly, bit off the end of the cigar he had been waving about, and glowered.

The young man eyed him doubtfully, his very posture expressing his disapproval of President Ogilvie.

"Well," impatiently, "what's the story? Why don't you dig 'em out?"

The expense would hardly be as bad as the accumulated ill-will you're piling up by refusing common decency."

DEEP down in the mine, where there were no other exits, miners vanished into thin air. It was impossible, but true—





Out of the machine strode an incredible figure, advancing menacingly toward them

Ogilvie turned purple and slammed a fist on the desk. A big fist, one that had earned callouses on a pick mucking in the very mine that he now controlled.

"They ain't there to be dug, wise guy! They're gone! Disappeared!"

"Through the looking glass, I suppose."

But the pleasantry was lost on Ogilvie, who had been picking slag in a breaker house when he might have been reading Alice in Wonderland.

"I mean it, Hazelton. They're gone. We cleaned up the fall. Found one man crushed under it—but not a single sign of the fifteen men who should have been trapped beyond. Nothing but their tools and cars and the coal they'd blasted. No bodies and no explanation of what could have happened to 'em."

The investigator sat up and whistled.

"Any sign of foul play? There's been plenty of labor trouble here, as well as over the rest of the country. Union fighting union. Sabotage and that sort of thing. Anybody behind this?"

Ogilvie puffed fiercely at the cigar, squinting over the match he held waveringly at the end.

"The telephone wires had been cut. The cribbing looked as if it had been shoved down. In fact, there were sections of it that had been shoved down where the roof had held."

Hazelton nodded. "Regular procedure of these union agitators. Pull a few men and try to terrorize the others. Your missing men will turn up as soon as the organizing quiets down."

Ogilvie puffed on in moody silence for a full minute. His heavy face did not lighten, nor did the enthusiasm of the younger man fire him. Somehow he had the look of an awed and beaten man, his skin being livid except where the blue lines like irregular tattooing proclaimed that he had been a coal

miner and would carry that imbedded coal in his scar tissues to the grave.

"The others haven't come back—yet," he said slowly. "None of 'em—and it's all of fifteen years."

Hazelton bent forward eagerly, his eyes darkening as his brows drew down. "Then something of this kind happened once before?"

"Three times. Five years apart. It seems to be getting to be a regular procedure. Fifteen years ago, when I was a straw boss on the bottom level, we had a cave-in. Two of 'em, in fact, a few days apart. Each time we lost fifteen men—and never found hide nor hair of 'em."

Hazelton was looking at him with that skeptical expression with which he might have regarded an insane man. But Ogilvie was too engrossed in memories to pay any attention to his listener.

"In another five years, when I was assistant super, we had another. Thirty-two men trapped on that same bottom level. We had phones then. But we figured they'd gone stark crazy when they jabbered about a monster that carried off half of them and crawled into the solid wall.

"Then they called that it was coming back—and the wire went dead. We hurried the rescue work, but not a man was left when we got there. Nor a sign of a body."

The silence was impressive. The cigar went out, unnoticed.

The big face moved again. "Five years ago it struck again. Thirty-eight men were trapped the same way on that cursed level. Phone went out before the fall. That time we found eight corpses. The coroner frankly admitted he didn't know what had killed them. None of the regular mine troubles like black damp or gas. All had such horror written on their faces that it made a man sick to look at them."

He shuddered, looked at his cold cigar, and hurled it into the wastebasket.

"Hazelton," he snapped, lifting to his feet and pacing like a caged wild thing, "that's why I sent for you. Thirty men each time before. Five years between return visits. Only fifteen this time. I'm counting on you to solve the ghastly riddle before the rest of the usual thirty are grabbed."

Hazelton smiled as though pacifying an alarmed child. "I'll have a look around down there. Ought to get something from the cribbing that was knocked down. Might even locate the getaway. There must be a secret passage—"

Ogilvie snorted his contempt. "As if I don't know my own mine, me what picked slag, mucked, and wangled my way up from the very bottom level. But go ahead and satisfy yourself. Only don't take too long. We've got contracts to fill, and we've got to have coal from that bottom level. I can't hold 'em out of there forever—and I don't dare let 'em go back again for fear we'll lose fifteen more."

"Little danger of that," smiled Hazelton reassuringly. "I believe you'll be perfectly safe in sending them back. But I'll have a look around first to satisfy you."

IT was one thing to scoff at President Ogilvie's tales in his office above ground, but it was quite another matter to think of them in those eerie depths where the cage finally deposited him. Even with the electric lights turned on for his special benefit, the gently sloping black caverns on every side seemed filled with the mysterious and the unknown.

He followed the broad back of the grim president toward the scene of the recent cave-in. Although he had been

down in many coal mines before, the depth and extensive workings of this one appalled him.

"Deepest mine in the state," grunted Ogilvie, turning to light him on his way, swinging a bird cage in one hand and an electric flash in the other. "Maybe that explains why—"

He did not finish, but resumed his trudging, his eyes on the canary, which they carried instead of the customary screened lamp to test for danger. It seemed miles that they traversed vaulted passages and mighty cribbed chambers before they finally came to a pile of damaged cribbing and new replacements of heavy timber that lifted to an irregular ceiling from which the recent fall had evidently come.

Hazelton examined the scarred and smashed timbers carefully in the light of his beam. They were scored with odd curved gashes which had been made recently, marks that he could not comprehend.

Beyond the fall Ogilvie waved his light at other timbers that had fallen without bringing down the roof. These were likewise cut and gouged with the same peculiar markings, almost as if caught in the curves of some mighty auger.

A little shudder ran along the young investigator's spine in spite of his outward calmness. Some sixth sense seemed to warn him that he was dealing with things beyond the ordinary ken of men.

"And this ahead was blocked off?" he asked crisply.

Ogilvie nodded, sweeping his beam into the dark depths. "Barely fifty yards straight ahead, but with chambers on each side. Big vein of solid coal through here."

"I'll carry on from here alone, if it suits you. Just leave me the canary, and I'll be okay. I want to go over

every inch of the walls."

The president handed over the bird cage, started back toward the shaft, then seemed to think better of it.

"I'll show you something," he said grimly.

He walked to the face of the coal vein a few yards beyond the damaged timbering and swept his light along the wall. A huge circular hole, somewhat larger in diameter than his towering six feet two, dipped into the glittering coal a scant foot to eighteen inches.

"There is always a spot like this after it happens," he whispered.

Hazelton stared incredulously. The wall looked for all the world as if a mighty auger had started to tear a great hole in that solid face, leaving the same type of curved scars on it that had been left on the timbering, only in plainer pattern here, almost as if something had churned its way through and left the mangled coal behind.

He lifted the pick that he had brought with him and struck the markings. A fragment of the coal broke loose and fell. Eagerly he stuck the pick into the crevice he had made and pried, but the packed mass did not yield, as he had anticipated, in a flaking along that curve. Instead he broke off a mere splintering of the hard coal.

"Always there's a loose heap in front of the face," Ogilvie continued to whisper. "But the core, or track, or whatever you want to call it, is firm as the rest of the face. We followed that first one thirty feet."

"And found what?" sharply.

"That it went into the solid rock beyond. Left just the same sort of markings there, only the track turned sharply down. We gave it up after ten feet of rock. There seemed no use in following farther."

Hazelton gave him another of those incredulous looks and turned away

from the dent.

"I'll come back to this later," he shrugged. "Think I'll have a look around first. Somebody's pulling your leg, Mister Ogilvie, and I'll make you admit it. See you topside when I'm through down here."

BUT four hours later, when he came wearily back to that odd boring, he had lost some of his cockiness. He had tunked and sounded every foot of passage and chamber beyond where the fall had taken place without finding a sign of any concealed passage.

"Whatever it is," he said grimly, staring at the markings, "I don't believe it. That cock-and-bull story about following a similar boring through solid rock shows that Ogilvie's trying to put something over."

"I'm sorry you have such a low opinion of my father," said a soft voice behind him.

He whirled and stared into a large pair of luminous eyes that caught the beam of his flash from the vague whiteness of a face a few scant feet away. The color of the rain coat of rubberized material blended so with the walls that he thought her face disembodied and floating eerily at first.

"He's really greatly upset about this mystery," the voice went on. "I believe he is seriously shaken. He called you in because he wants an end to this horror, an honest explanation of what happens to his men. My father is not the popular conception of a miner baron who grinds the working men under ruthlessly."

He liked the girl's pique. Her anger for her father heightened her color. Instinctively he felt drawn to her.

"I can hardly understand why you're here, if he thinks some horror haunts this bottom level."

She flushed even brighter. "I slipped

down here without his knowledge or permission. He has ordered everybody connected with the mine to stay away from this level until the mystery can be explained."

Hazelton shrugged again, toying with some chunks he had just pried from that oddly scarred circle.

"That might not take too long," he said cheerfully. "I think I've found something that might prove to be a lead. Some of this coal in these odd markings has been sprayed with something to make it cohere before it was pressed into place. Probably analysis of the glue will start us on the right track. Meanwhile I want this hole cleared out. I'm not so sure it will lead to such a rock phenomenon as your father claimed the other led to."

She looked at him earnestly. Her eyes were large with wonder, begging for his confidence.

"My father is not a dishonest man," she insisted quietly.

"I'm not saying anybody is," he said, looking into those liquid eyes and wishing fervently that he might have her faith. "I'm here to find out why those men disappeared. That being my job, I'm going at it to solve it—no matter where the trail leads."

CHAPTER II

The Horror in the Mine

TWO days later he was back in the same spot watching a group of grim faced men boring into that swirl of markings. Muckers were ready to shovel the loosened coal into waiting cars. Timber was piled in readiness to crib the passage they would tear into the face.

"Ogilvie hasn't broken," he muttered as the drills bit into the coal, "though he couldn't show me other markings."

"That," said the girl at his elbow, "was, as he explained, because that section of the mine has been worked out and abandoned. The roof fell in long ago. It would cost thousands to clear them."

"So you're here again?" he began, shouting to drown the biting hammering of the drill. "Your father gave strict orders you're to be hustled to the surface if you show your nose down here again. Better get going."

"Make me."

He liked the sauciness of her. But she needed a firm hand. He stepped forward, seized her just above the elbow with thumb and finger, and started propelling her toward the shaft. For a minute she tried violent resistance, then found that she could do nothing against that steely urge, and succumbed, laughing.

They had taken but a dozen steps when a shuddering, grinding roar filled the passage ahead of them, something that drowned even the violent yammering of the drill behind.

"What's that?" asked the girl, halting.

He stepped to her side, putting that arm around her protectingly by instinct, his blood chilling at the mighty rending of rock and coal in that dimly lighted passage ahead. Then something burst out of the solid wall a few yards beyond them, a mighty rotating thing of worming vanes and cutting blades not unlike the edges of an auger, yet working down the pointed surface of a snub-nosed engine that came rearing and tumbling like an army tank through the gaping hole it had torn in the wall.

Before he could move or cry out, the thing lunged and lumbered toward them, riding slowly on those rotating vanes. Then horror gripped him as the cribbing started to go down, under the grind of that monster machine that

came fighting out from under the rushing fall of rock to chase them back toward the workers.

Hazelton's flash disclosed a window with ghastly great eyes behind it, eyes that seemed to be directing the fearful machine. With the passage completely blocked behind them by the fall, the rumbling car gave up knocking down cribbing and continued to rock and lunge forward.

The girl leaped for the phone, but the boring monster halted, a door opened suddenly, and a pair of huge shears slid out to find and sever the wires before she could summon the operator.

Meanwhile the miners had sighted the terrifying engine and had gathered behind Hazelton and the girl to stare at it.

The door opened wider and a creature stepped from it. At first glance it appeared to be a bird as large as a man covered with downy feathers and staring at them out of large luminous eyes. Then the feathers were thrown back and were revealed as a cloak covering the oddest figure any of them had ever beheld.

SHAPED like a man, the being looked more like a glass exhibit of a human anatomy, for the skin was opalescent and transparent, so that muscles, tendons, joints, and even pulsing blood vessels were visible to the naked eye. Even the muscles partook in some measure of the transparency, being so ethereal in texture that the outlines of the bones were vaguely discernible through them.

But the face was ghastly. It was overlaid with the opalescent transparency that covered the body, but it was like a horribly skinned face under a layer of cellophane, with the eyeballs laid open, the teeth in grinning display, and the jawbone, antrims, and skull

showing through.

Recoiling, Hazelton flung up an arm to save the girl from a further contemplation of the nightmare, while he dipped with the other hand for his automatic. But before he could whip it into action, those horrible eyes had noted the movement and the hand that looked like a grim demonstration in some biology laboratory pointed a thin cane at him. Instantly he felt himself frozen by a thin spray that lashed at them. His limbs refused to function, although his mind remained active. Only his frantic eyeballs could turn, rolling about to discover the girl equally rigid beside him, her pleading eyes turned up to him hopelessly.

More of the odd men issued from the machine. At a command from the first, they lifted Hazelton, then stopped to stare at the girl's body, which he had concealed from their view.

Exclamations of wonder burst from them. Their leader advanced and stared at her, seemed hesitant what to do with her, then waved to have her carried after Hazelton toward that yawning door.

Inside the odd vehicle they caught a glimpse of a maze of controls as mystifying to the uninitiated as those of a modern submarine. Then they were bundled into a sort of storage chamber and stood up against a wall, to be braced in position by the similarly stiffened bodies of the miners and muckers who had been working at the hole.

Seemingly satisfied with his catch, the leader returned to the controls, ordered the door clamped tight, and, discernible to the prisoners through a window in their chamber, started manipulating the gadgets arrayed about him.

Slowly, rocking but slightly, the thing turned, backed, weaved until it faced directly at the hole where the min-

ers had been working. Then it ground forward and, with a mighty roar of slicing blades biting into solid coal that a pick bounced from when swung with a man's full strength, they slid slowly into the gleaming coal face.

An anxious helper ran aft to force his way between the stiff bodies of the prisoners and peer out of the rear window. Seemingly satisfied, he flashed a light signal to the operator, and the car halted.

Then a switch was thrown over and something clanked violently against the rear of their prison. Hazelton stared incredulously at that rear window, now banked on the outside with the very coal that the worming tank had just hurled behind it with its slicing vanes. Evidently the operator knew some magnetic influence that would draw the coal up to his machine.

The hissing of a spray confirmed his theory that the coal had been glutinated by some unknown substance, the nature of which his laboratory experiments had failed to reveal. He could see a trickle of something wet stealing over that coal outside the rear window.

Then their captors wrapped themselves afresh in their odd featherlike cloaks. Soon an oppressive heat filled the mechanical mole, but not melting away the icy embalming influence that gripped the prisoners, although making their skin uncomfortably warm and starting the sweat to coursing.

Hazelton made a mental note that the feathery cloaks must be asbestos treated in some special way. Then, after what had evidently been pause enough to allow the quick-drying cement on the coal to harden, they rocked and ground on again.

The terrific roar and din of the grinding advance, made possible by the way those revolving vanes gripped the rock, tore it loose, and shoved it behind them,

to pack it into place with a hardness that rivaled its original condition, was deafening. Even if they had been thawed sufficiently to move their vocal organs, it was doubtful if the prisoners could have communicated. Their captors made no effort at speech, but signaled each other with an elaborate system of tiny lights.

The clatter and roar and churn of their advance changed from time to time. When they struck harder rock it sang louder, and the advance slowed. Then they would slice through something softer with a relief of the clangor and a definite increase in speed.

The angle had changed until it was an acute descent that sent them boring deeper and deeper toward the vitals of the earth. They shot through sand heavy with entombed oil. They plowed down into more and more rock.

The heat inside the borer became more and more intense. Their speed accelerated. The prisoners grew sick and giddy, packed together like so many big dolls, utterly oblivious to the pressure of the weight of the others upon them. Only the terrific heat registered on their nerves, except sound and vision.

Unconsciousness claimed them, an unconsciousness that was vaguely broken from time to time to the monotony of that seemingly endless sliding down into the very core of the earth.

THEN they all awakened with a start to that numbed state they had known ever since being sprayed. Slowly they became aware that the mechanical mole was unbearably hot and that their captors were suffering miseries inside their great cloaks, while they frantically directed the vehicle.

They had been awakened by contact with something seemingly impenetrable, for the mechanical mole was turning

slowly and inching along its surface.

Suddenly a buzzer sounded, and one of their captors leaped to an instrument panel that had been previously ignored. Swiftly he adjusted the dials. A soft voice began speaking in the unknown tongue of the weird men.

Relief showed in the eyes of the leader, the only part of his ghastly face revealed through the mantling cloak. He swiftly changed the course of the mole. They slid and clattered along, apparently over a smooth but impenetrable metallic surface. Then they halted and began a conversation over a two-way radio phone.

Finally the ship ground forward again. Lights flashed through the windows, revealing ponderous doors closing behind them. Then a deluge of sprayed water hit the hot exterior of the mole, sending up a mighty hissing and clouding everything with steam.

Half an hour later the steam had dissipated, and a number of other odd figures in similar feathery capes came to throw open the door. Like porters they staggered out with the stiffened cargo, standing each in the very position he had been caught in when that paralyzing spray hit him.

Hazelton noted that they were apparently in a great lock, for the chamber was cylindrical with what appeared to be massive doors at each end, controlled by great wheels and heavy dogs. A compressor of some kind was kicking away, as if to regulate pressure or some equally important feature within the chamber to whatever lay beyond that massive door dogged shut with mighty chunks of metal.

Then he looked about at his comrades, already arrayed like so many cigar store Indians in a row. Some crouched in the fear they had known at the approach of the weird men, faces contorted in horror, eyes bulging. Some

had doubled their fists as if to fight. Two or three had thrown up an arm as if in a protection that availed nothing. He himself was posed in the grandly defensive manner he had automatically assumed to guard the girl, although he felt foolish about it now, caught so definitely in his heroics.

The weary leader from the mole barked an order. One of the lock attendants lifted a spray gun and played it over the prisoners. Slowly the freezing numbness left them. Strength flowed through their limbs. They became acutely aware of their hearts resuming beating and the gasping of their lungs.

"My God, what is this?" gasped the girl in reverent horror. "Are we all dead? Is this—is this the future existence?"

One of the attendants shuffled forward and threw back his hood. The face thus revealed was human, except for the horror and hopelessness etched deeply into the features. The eyes were almost maniacal as they stared from one to another.

Suddenly a miner gasped and took a half step forward, his eyes bulging.

"You—you ain' Joe Doake's gran'-fadder?" he called excitedly. "You look so much like Joe I'm sure you be."

The head lifted. The feeble shoulders, which had evidently been broad and powerful before they wasted, went back with an effort. Something akin to a laugh, but a horrible cackle of unpleasant sound, issued from toothless gums.

"I am Joe Doake," the feeble voice whispered. "And you," blinking and peering, "you're Sam Tavarick, aincha? Remember drinkin' beer with me down at Andy's place, the night Forty-Six voted to strike? Yea, I'm Joe." Then, as the other recoiled, "Been through enough to make anybody old. But

you'll find out soon enough. Too damned soon, if you ask me."

The old eyes filled with tears. The thin voice quavered weakly, broke.

"But I'm sorry they caught you, Sam, though I'm glad to be through. Wore out, I am. Be put out of my awful misery

Doake groveled on his knees for mercy before the threatening guard



now, with you here to carry on for 'em. Like a wore-out horse."

The old eyes blazed anger. The old fists clenched. A guard lifted his weapon threateningly.

It seemed for an instant that the old man would turn on his captor, and in spite of his weakened condition, attempt to wreak vengeance for the incredible torture it was all too evident he had gone through down here in this hell far beneath the surface of the known world.

But then, as the guard's weapon expressed its menace, the tottering figure of Doake became a jabbering, fearful thing groveling on his knees for mercy.

"No, don't give me no more punishment," he wailed. "Kill me, if you

must, but no more of that hell. I'll be good. I won't do anything."

Hazelton reached out a reassuring hand.

"But tell us, man, what is the meaning of it all? Where are we?"

"And why are we here?" demanded the girl. "Who are these strange beings?"

Doake saw her for the first time, noted her sex. An even deeper horror swept over his face. He shook as if with a chill.

"Kill yourself at the first chance," he jabbered. "Don't do what they want. They won't keep no promises. They'll trick you, the fiends. Don't do it for 'em. I know what they brought you for, but refuse, refuse! Do you hear me? REFUSE!"

His voice had lifted. His weary old body had grown taut with nervous excitement. Suddenly it jerked spasmodically, his hands gripped at his heart, and he crumpled, to twitch and then lie still on the hard metal at their feet.

"Heart," whispered Hazelton, his own face blanched.

"What could he have meant?" asked the girl, cowering in terror.

"Probably just insane babbling," Hazelton tried to soothe her. "Hold onto yourself, and we'll soon find out."

THE dogs were already lifting from the door beyond. Soon the thick door swung open with the ease of a massive time-locked entrance to a mighty bank vault. They blinked unbelievably at the scene before them.

Grouped under a massive domed ceiling of something dull and dark that looked like a fused metal bubble of gigantic size, there lay as weird a city as ever haunted a nightmare. Hazelton knew that he was dreaming and that he would soon wake to chuckle over the monstrosities, but his scientific interest

made him note the definite signs of a planned creation, more man-made than any city on the earth's surface.

The massive dome seemed braced and supported by an intricate array of beams and girders that laced upward like flying buttresses. Along them and along the walls ran mighty conductors in the openings of which fans whirled to suck or blast. Everywhere there were controls, wheels, gears, cranks, levers.

Machines pumped and labored away noiselessly and efficiently. Like some fantastic idea of a World's Fair of the future, the unbelievable whole throbbed and hummed with a mechanical vitality that was astounding.

Then he saw the people. Hordes of the same kind of creatures as their captors were drawn up beyond a row of guards to stare at them as people on the surface of the earth might stare at some unheard of creatures just captured in some far off land.

Their skin and flesh had the same ghastly transparent iridescence, but the garments they wore were diaphanous in nature, obviously designed for adornment and concealment rather than for warmth or protection.

Suddenly the ranks opened and seven sedate figures with serious mien came stalking through, dressed in ceremonial robes. Frowning, they drew up in front of the prisoners to accept the report of the leader of the raid.

He spoke volubly, then turned and pointed toward the girl. The seven started, stared, then came forward to investigate. As they put out those horrible claws to paw at her, Hazelton drew her back angrily and snarled at them to leave her alone.

They recoiled in evident alarm, staring at his face. The guard leaped forward with lifting weapons.

"Hold it, feller, or you'll get plenty

punishment," called a voice in drawing English. "You ain't topside now. These skinless wonders can make you sweat, even if they can't sweat themselves."

The prisoners turned with one accord to see the shambling figure coming to act as interpreter. He too was bent and aged, although probably prematurely.

"You're here for a five year hitch," he nodded, chewing away at something as though it were gum or tobacco. "Five years o' sweatin' to keep these gooks livin' in ease and then—blotto. I'm allowed a six months stay to learn one o' you mugs the lingo. Then it's curtains for me."

He saw the girl as Hazelton's arm lowered slowly. Instead of staring in horror he began to grin.

"Now they're startin' something," he chuckled. "Told 'em they ought to long ago. Say, you ain't the super's kid, grewed into a woman, be you? You look a lot like her."

Miss Ogilvie nodded. Recognition showed in her face.

"You're the man who whittled me the boat?"

"Yeah," shaking his head, "but these coots grabbed the wrong un'. Ogilvie'll be after you if he has to run a tunnel clear down here, water jacketed for coolin' and timbered with asbestos logs."

"What is this?" demanded Hazelton.

"It's Subterranea, the land under the land. The city of the granddaddies of all cave men. Accordin' to their story they been here too long to keep dates. They used to live in caves up on the surface and got way ahead of their times with gadgets of one kind or another. Sort of a scientific bunch. One of 'em found some kind of metal or alloy and made up one of these boring wagons such as you just came in.

Used to go explorin' far down into the innards of the earth."

Hazelton stared incredulously. Then he remembered that ancient peoples of South America, Asia and Egypt had done engineering feats beyond the reach of modern man. Secrets of science known in the old world had been forgotten under the rush of vandal savages. Why was it not feasible to believe something of the kind had been known on the western hemisphere and likewise lost?

"They tell a long-winded yarn of the coming of great mountains of ice and bitter cold. The fires their people built in their deepest caves and mines wouldn't keep 'em warm. Savage brutes of men, covered with hair and skins of wild animals, came swarmin' down ahead of the ice hills and killed a lot of 'em."

"Crude cavemen before the glacial advance," nodded Hazelton.

"This Peary of their times who went borin' to do his explorin' had found a big hollow bubble down here, miles below. He'd rigged it up with all kinds of gadgets, bein' more scientific than any of the rest, and had lived a year or more down here alone with his doddings and thingamajigs. When he heard the trouble up above, he offered to haul 'em down here and set up what you see."

At this juncture the grim seven interrupted, talking gruffly to the interpreter. He shrugged and explained.

"That's all the hist'ry for now. You," pointing at Hazelton and the girl, "come with me. The rest of you unlucky stiffs go with the guards. You get the five years at hard labor, boys. And take it from me, you better do what you're told. Them chambers of horror on earth we heard so much about was tame to what they do to a worker here what don't toe the mark."

Hazelton looked at him expectantly. "You get the detail as interpreter, for they figger you look to be smartest. The girl—well, they got something special for her."

His eyes hardened. His jaw muscles flexed.

"Listen, Miss Ogilvie, it ain't goin' to be no bed of roses for you, but you got one consolin' thought. You'll likely be the only earth woman who'll have to go through with it—and you'll be maybe savin' a lot of daddies and husbands from bein' snatched away from wives and kiddies in the years to come."

She looked at him with eyes that pleaded for an explanation, but he looked away.

"Only I'm sorry it got to be an Ogilvie they picked. Your old man was the best super I ever had."

CHAPTER III

IN the days that followed Hazelton was the constant companion of the interpreter. They had an utter freedom, except for the locks, and were allowed to prowl everywhere, discuss anything, while the old man taught the younger the language of these odd creatures that controlled this city of wonders.

Hazelton learned that the marvel of the past had built up an impossible intricacy of machines. He had fired his mechanical mole with an atom engine, which produced power from an incredibly small amount of fuel, a mere handful sufficing for a trip of that boring engine to the earth's crust and back. Then he had learned how to break down the gases and earth about their sphere into elements, from which he could extract what was necessary to life.

Oxygen was manufactured steadily, as were all things else man needs.

The surplus gases were carefully drawn off, and the waste matter all reworked. For centuries the ball, reinforced by a thick layer of this hard alloy and securely braced against outward pressure, had continued its self-contained existence, the reproduction of life strictly limited, the whole city definitely as regimented as a bee hive.

Then, only a few years before, a slight increase in the heat of their walls had been noticed, in spite of the functioning of the thermostatic cooling device.* This was a real problem, for the many centuries of cave dwelling before they dipped into the center of the earth and the additional centuries of living in such a perfectly regulated atmosphere had taken from their skins the normal functions of perspiring and of heat regulation for their bodies. They were like cellar grown sprouts, so pale and unaccustomed to normal functions that sunlight or frost would kill them.

Meanwhile the inventive genius had lagged. Like so many other civilizations they had progressed far beyond their contemporaries and then halted. Fear gripped them. There seemed no solution to their plight. If they bored upward with their moles to the earth's surface, temperatures there doomed them, for they could live only at the sixty-eight degree level. On the other hand, the increasing heat, due to escaping lava pressed upward as they tapped the inner heat of the earth for their cooling systems, would soon kill them all unless workers could be found for the hot chambers where the cooling apparatus lay.

Part of the difficulty lay with the deterioration of the odd feathery cloaks

* The thermostatic coolers utilized the heat from the core of the earth to refrigerate to the desired temperature after the principle of a modern gas operated ice chest.—Ed.

Hazelton had already noticed. These were truly asbestos, but were hundreds of years old, since nobody had bothered to learn how to reproduce what seemed never to show signs of wear. But the cloaks had begun to disintegrate, and their wearers could not remain in the super-heated control rooms long enough to cut down the ever increasing and ever threatening heat.

While they were yet able to drive their own workers into the chamber in relays to keep the interior of Subterranea cool, somebody had suggested a return to the earth's surface to capture some of the beastial cavemen who had invaded their domains with the coming of the ice. These creatures should be able to work in the alternating heat and cold of the control chambers where Subterraneans collapsed quickly under the dual strain.

Then began the series of raids that Ogilvie had noted. Instead of prehistoric cave dwellers they caught coal miners, men admirably adapted to their needs, being accustomed to much sweating below in the mines and cold on the surface of the earth. But even these hardy miners could survive only five years in those damnable control rooms, where the heat from the vitals of the earth poured up to be changed into frigid cold to pour through the channels in the metal shell that insulated Subterranea from the heat without.

Then Hazelton brought himself to ask the question he had dared not voice. "What about Miss Ogilvie? What are they going to do with her?"

THE interpreter shook his head and looked away.

"Lookin' at it one way, it's hard on her," he said gruffly. "I'm glad she ain't nothin' to me."

Hazelton jerked about at him.

"Well, she's something to me. She's the woman I love." Then at the incredulous stare, "Oh, I know it has come over me fast. I'd no business to let it, with her father so much better off than I and all. But the way she stood up to me, the way she took—all this—"

He broke off and shrugged, staring moodily. Then he braced himself. "Come on, let's have it. What's in store for her?"

The interpreter chewed hard, shook his head, seemed groping for words.

"The way I look at it," he grunted, "we gotta be practical. It ain't right the way they grab off poor devils like us from the mines and drag us down here to wear out. What they ought to do is develop their own workin' class by—well, by cross breedin'."

Hazelton gasped and took a half step forward, as if to throttle him for the suggestion. His fingers worked spasmodically, and every muscle in his body was tense as he fought for self control to keep from killing the monster who could suggest such a horror. The memory of those horrible faces and those oddly transparent bodies made him shudder convulsively. He did not wonder that Doake had told her to commit suicide at the earliest possible moment.

Union with those horrid things would be nightmarish enough, but the thought of bearing children by them to be made into mechanical toilers in that hell of alternating temperature extremes was beyond endurance.

The voice went on. "They figure they'll get another strain from you and some of their women. Then they'll cross the two lines and develop all the workers they want, scientifically bred to heat and cold resistance and assuring them workers forever.

"Never," screamed Hazelton, beside himself with horror. "I'll have no part

in it, and neither will she. She's mine. Destiny brought us together. We'll die before we'll submit."

That wry grin that was devoid of mirth twisted the seamed face again. A gleam of the prematurely departed youth flickered in those aged eyes for an instant as if in respect of his defiance, and then went out.

"They got ways of persuadin' stubborn customers," he sighed.

Hazelton gripped him by the arm, his eyes alight.

"Listen," he begged, "do something for us, will you? You haven't much longer to live. You can't lose anything."

The shell of a man nodded disdainfully. "Not long. Five months at the most. For every day over six months I take learnin' you to savvy their lingo I get a night of torture. It's a lot easier to die on time."

"Then do this for me—for us."

"What?"

"Tell them I'm an inventor. Tell them I could make all kinds of things they'll need. Tell them I'll do it if they'll spare both of us that breeding."

A wild hope was already forming in his brain. He had delved into every nook and cranny of the marvelous few acres, had uncovered long forgotten cubbyholes and studied blueprints so old that they all but crumbled to dust in his hands. Many a feverish hour he had spent in copying down formulae evolved by some long dead brain and neglected by degenerating descendants.

Again that jaw swung rhythmically at the cud. Again those sagged shoulders shrugged.

"They're pretty much set on this cross breedin'. Figure they need some new blood."

"Try it," begged Hazelton.

"You know the risk you're runnin'? These critters ain't sympathetic, you

gotta remember. They'll likely promise you anything, and hold up delivery. They c'n torture you into doin' anything."

"I've got to take that chance. Try it."

IN his prowlings he had discovered where the girl was held captive. When his companion slept he had often slipped away to spend a few stolen moments at her window. Slowly the horror designed for her had dawned on him as he pieced together the propaganda talks she had reported. With a skilful knowledge of psychoanalysis and a resulting ability to create such fixations as they desired in a mind, they were slowly working upon her with diabolical cunning to prepare her for what they planned.

But their propaganda, he felt sure, was like that of earthlings, fit for the consumption of those who prepared it but excited no startlingly undesired reactions in such a mind as hers.

Luckily the process of preparing her for the anticipated ordeal was to be protracted. If his vaguely forming plan could work he might save her yet.

His companion came back at last, bringing the solemn seven, whom Hazelton had long since learned were the council in complete control of all life within the sphere.

"The prisoner is our slave," announced the head councillor with a frown. "Why should we bargain with slaves?"

"Because," smiled Hazelton disarmingly, "the mind is a delicate mechanism. When it is disturbed it will not function. Torture would throw it out of gear, drive schemes away. Nothing but contentment and happiness must prevail for the inventor. Worry, fear, anxiety, anything but peace will ruin his dreams and hopes and plans."

The seven deliberated. It was evident that they saw some virtue in new inventions. It was evident too that his poise and his ready answers had pleased them. He was quickest of all earth men they had known in learning their language, which argued favorably for his genius.

"Then plans for breeding you with our girls must be delayed?"

"Must be put off forever. Also plans for anything of the sort with Miss Ogilvie."

The seven exchanged glances. Hazelton caught the significance of those flickering eyes.

"And she must come to visit me every day in my work shop. I must know that she is happy, for I have chosen her to be my wife."

Frowns replaced the smiles.

"Are we to be dictated to by a slave?" demanded one.

"Are our plans, so near fruition, to be upset by the whim of a mere earthling?" demanded another.

"No," said Hazelton, drawing himself up proudly, "by an inventor, by one who knows how to use the science that you sluggards have not bothered to master. By one who can reproduce your invaluable asbestos cloaks, who can improve your cooling system, who can insulate your little world against ever increasing temperatures."

He was bluffing in large part, but they could not tell. He could see the repression muscles leap under their skin, could see the mad pulse of their blood foretelling a surge of anger, but they could not read his poker countenance. They stared and stared.

Finally the head councillor spoke.

"By special decree of the council you shall be given permission to work at will in the laboratories, using such materials as you desire. The girl shall come to spend some of each day with

you. The council especially wants to see new cloaks of asbestos, as you call them. The need is great. You could do Subterranea — and yourself — no greater service than to create such cloaks."

CHAPTER IV

Hazelton Makes His Plans

HOPE shone in Hazelton's eyes. Following instructions he had copied from mildewed blueprints, he had opened a disused injector and drawn a rush of ore into the sphere from a length of indestructible pipe that led some miles to a supply. Already the machines were at work lacerating the fibrous material according to specifications.

He looked up at the sound of footsteps and smiled cheerfully. The girl only stared at him out of a face that mirrored stark tragedy.

"You can smile?" she asked. "In the face of all this horror? Knowing—knowing what they have asked of me?"

His face darkened. He leaped up to embrace her, but she recoiled.

"But I'm buying you immunity from their devilish plans with this work. That's why I'm happy."

"But there can be no immunity. They're tricking you. They'll squeeze you dry and then—go right ahead with it."

He dropped his eyes as if to study the plans. He could not risk telling her, arousing her hopes. It would be too cruel. Besides, she might let it slip somehow.

"You're a traitor to decency if you do one thing to keep their crazy world from melting around their heads," she insisted. "They're not human. They are animal-like, all but devoid of emotions. I—I can't stand it! They're driving

me mad with their insidious suggestions that it would be an honor to bear them their ghastly children—the monsters!”

He lifted his suffering face.

“I’ll save you that,” he said. “I promise you. Whatever else happens, I’ll save you that. Death would be better?”

“A thousand times. I—you see—I’m—I’m in love.”

His heart stopped for an instant. A cold chill seemed to freeze him. He could not force himself to raise his eyes to hers lest the misery in his own tell her what a fool he had been to allow himself to fall in love with her.

“I—er—can imagine how you feel then. I—er—you see, Miss Ogilvie, I’ve—well, I’m that way myself about a certain young lady.”

He could hear her breath stop, could feel her eyes on him. He felt the blood drain from his face, then come flooding back.

“So I can understand,” he went on, grimly determined to see it through. “It would be bad enough normally, but when you’re in love—”

There was silence for a long time. When she answered finally, in a mere whisper, that eager vibrancy was gone from her voice as if he had choked off her last bit of hope instead of holding her out a sure escape. He understood the change to be from a consideration of the impossibility of ever returning to that lover she had left on the surface of the earth.

“Then you’ll assure me a way out—if the worst comes to the worst?”

He nodded miserably. Deep within him he hoped, for her sake, that his plans might meet with no obstacle. For himself, now that he knew she was already in love, the future was suddenly hopelessly bleak.

Silently they watched while the shredding machine spewed out its con-

tents. He rushed the mass to the other processes with rising hopes. So far everything was working as he had planned. No inquisitive Subterranean had come to watch or snoop.

He opened another carefully charted intake pipe and carefully examined the ore that came oozing into the bin. He grinned as he thought of what he was planning. But the grin was bleak compared to the broad smile he had known before the girl had spoken, and his heart was heavy. For his own part he could cheerfully have utilized that secret he had once been tempted to work, the secret that would cut through the dome of their retreat and flood their city with molten lava and crushing earth from without. But he must save her, if possible, even if it must be for another’s arms.

The limited quantity of ore that he had drawn from the first intake chute went on through process after process. Gradually it began to show promise, so that he thrilled at the fluffy quality that he saw developing under the series of treatments. Gradually the material began to show definite promise of far surpassing in lightness and beauty the tattered garments that the Subterraneans were forced to don whenever coming in contact with the slightest change in temperature.

Finally he had a completed cape to show the unreconciled Miss Ogilvie. She forgot its beauty in the significance of what it might mean.

“Don’t you see, Mister Hazelton,” she implored, “that you’re perpetuating this horrible nightmare by giving them these capes to prolong their existence indefinitely? Without them, they must soon die off, for the old ones are growing less and less effective.”

He toyed with the luxuriant material, letting it whisper through his fingers. His eyes were on those machines, each

working on the substitute ore that he was anxiously putting through a similar process. He could see that he would have to do a world of experimenting before he could be assured his plan would work.

"I'm doing this to save you," he tried to explain. "If I can perfect their apparatus and their protection sufficiently they won't need to breed their special workers."

She shook her head, her haunted eyes on his face.

"No matter what you do, they're going through with their plans for—for their hybrids, as they call them. They concede that temperature changes may be wise for the future. If they can breed adjustable skins and sweat pores into their future race, they think they will be safer from extinction."

Still he could not bring himself to tell her of his wild dream. So much might happen. His experiments might not jell. The Subterraneans might learn of his attempts at duplicity.

"I've got to go on," he said doggedly, avoiding her eyes. "I've got to believe they're sincere. It is all that will save my sanity—work and faith."

SHE looked at him pityingly as he bent to examine a fresh batch of the lacerated fibers. She imagined that he meant he must go insane thinking of the sweetheart he had left on the earth's crust and of what might be happening to her during his absence. She almost put out a soft hand to brush the tumbled locks out of his feverish and worried eyes, but restrained herself, afraid that he would guess of her hopeless love for him.

"This is going to take work," he said grimly. "Look at these colors. No more alike than—boy, what a job I've got ahead of me!"

Grimly he plunged into it. His inter-

preter, granted a stay of life that some of the learner's time might be spent in the laboratory work, fumed and wheedled as he stole hour after hour for the work he felt he must rush to completion.

"They'll be givin' me mine," he kept reminding Hazelton. "This is one place where a teacher's got to deliver or they give him the works. You gotta learn or I go to the torture chambers soon."

Hazelton lifted sunken eyes that stared out of a gaunt outline of a face. His gaze was fanatic as it bored into the prematurely aged eyes.

"Listen, I'm trying to save the lot of us," he whispered hoarsely. "I think I've got something. If I can match these colors—"

The interpreter grinned and spat disdainfully. His thick fingers rubbed the fluffy material speculatively. To all intents and purposes this was a duplicate of the first robe made, but the shade was different and the feel lighter.

"If you're riggin' these to deceive them Subterraneans you're wastin' time on color and finger feelin'. They got no delicate nerves 'cause they ain't got skin. Nor their eyes ain't up to shades, neither. Ain't you noted the colors're kind of drab around here? The whole lot of 'em is color blind. Get the shades somewhere near alike and you'll fool 'em on color every time."

Hazelton's heart leaped. "You're sure of that?"

"Positively. No feel in the finger ends and no eye for color."

Hazelton turned madly to his machines, speeding them up. His hopes sang within him. Yard after yard of the feathery material came from the finishing machines, was spread out on the tables. Cutting machines sliced it. Needles flashed to sew it to the desired cape style. When Miss Ogilvie came for her daily visit he was madly sewing

away at the third garment.

"I AM making a hundred of these," he explained. "See any difference?"

"Of course. These two are nearly pure white. The other has a grey tinge. And these," rubbing the soft fiber between speculative thumb and finger, "are slightly softer to the touch. They're not exactly the same material?"

"No, but I'm trying to palm them off as the same. If I get away with it, we might put an end to all this," waving his hand about him at the weird world.

"I don't understand."

Her voice was so questioning that he suddenly felt he must confide in her. Half his exhaustion was due to trying to bottle up his emotions, to trying to harbor hopes and fears without talking the possibilities over with anyone.

"That one is real asbestos, like their original cloaks. These are made of a highly inflammable, non-heat resisting fiber. I'm hoping they'll test only one cloak. Then I'll try to swap them—the rest of the batch for our freedom. With only one effective cloak, they can not carry on with their own workers."

She reached for needle and thread and sat down beside him. Her fingers whipped the soft material together with rapid stitches.

"I'm with you," she whispered. "I know it's a desperate chance we're taking, and I doubt if they'll set us free, but we might annihilate them and end their raids on humanity by tricking them."

The pile of feathery cloaks grew. Day after day they kept the machines turning out the material and their needles whipping it into garments. Finally Hazelton sighed with satisfaction at the long rack of splendid cloaks.

"I'm going to try one on Orno today," he whispered. "He's on duty in

the heat chamber tonight when they change from hot to cold. I'll rig him up in the new asbestos cloak and watch how he reacts."

The experiment was undertaken with reluctance by Orno, the particular foreman in charge of the control chambers that evening. Hazelton went along, clad in a second cloak aware that he could stand the temperature changes because of his body heat radiation, although wearing a cloak that had no effect on heat or cold.

Orno stepped gingerly through the air lock into the highly complicated control room. Still doubting the efficacy of the newly constructed suit, since it was almost a religious belief in Subterranea that these miracles had been done by supernatural assistance, he watched the thermometer rise and rise.

Hazelton felt the sweat pop from him and was thankful for the concealing folds of the utterly useless cloak as the heat swam at them in shimmering waves that turned the control room into an inferno. All around them toiling bodies of the miners and muckers who had been brought in the last raids, gleamed nakedly, sweat poring from every pore. Their haggard eyes gleamed viciously at the two cloaked figures so completely muffled that they could not recognize Hazelton.

Perhaps it was as well for their misery had congealed into an intense hatred for the investigator they felt had been responsible for their being captured. Although they were chained in such a fashion that they could do little to harm him, their bitterness was so intense that they might have ripped free from their chains and braved the probability of torturing punishments to get at him.

"This is wonderful," screamed Orno above the roar of the hissing steam that came charging up from the core of the

earth through the ancient pipes that had been designed to bring it to their sphere. "Not one bit of heat reaches me. I hope it is the same with the cold."

Hazelton nodded his confidence and waited.

THE moment came at last when it was necessary to change over to the cold. The heat was clamped down. Tubes and channels were locked shut. The mighty paddles drove the cooling mixture to the fans that would waft the frigid air through the tunnels in the metallic shell.

The control room chilled swiftly. Frost formed around the mixer. Particles of ice danced in the air, where the steam of a few minutes previous was frozen before it could congeal. Pipes of dull dark metal took on a feathery whiteness as the chamber turned into a fairyland of frozen beauty, while the toilers jerked on their garments and moaned with the ache of the chill.

Hazelton had to bite his lips to keep his teeth from chattering. The sweat was freezing inside his useless cloak. It took every bit of his muscular control to keep from shaking with a chill.

"This is wonderful," shouted the delighted Orno. "This cloak is so much better than the other. I could stay here all day."

Hazelton edged toward the lock, feeling that a few more minutes must give him pneumonia. He called out above the whirr of the fans and the beat of the mixer.

"I want to see the council. Come and give them a report."

They slipped off their cloaks as they emerged into the even temperature of the sphere. Hazelton threw both over his arm to keep Orno from seeing how cold he was.

He noted how the dogs on the lock

worked, making a careful note. If his bartering failed with the council, he had a desperate plan to try.

On their way in quest of the councilors they passed the slave quarters near the lock that gave entrance to the control rooms. The workers off duty lifted and clanked their heavy chains as they recognized him, hurling vile epithets at the man they felt had brought half of them into this nightmare existence.

"They love you, eh?" grunted Orno. "Beasts! Is it any wonder we had a low estimate of your people?"

"These are only the lowest type of workers," explained Hazelton. "Miss Ogilvie and I belong to the brain workers."

Orno nodded. "That is why we hope for a splendid union of you two with our people. We have much in common. If we can only develop your heat metabolism our race will be perfect."

Hazelton said nothing in reply. The casual way that Orno had mentioned a subject he believed discarded gave him food for despair. Undoubtedly the girl was right. They had no intention of exempting her from their hideous cross breeding plans.

He was still grim when he faced the seven. Their exclamations of delight at the efficiency of his suit, as reported by Orno, left him cold.

"Gentlemen," he said at last, weighing his every word, "I have a proposition to lay before you. I wish to return to the earth's surface. So does Miss Ogilvie, and so do these others who came with me. I have made for you a full hundred of these cloaks. Your people, protected by their insulation, can return to operating the control room. They can even install additional machinery to guard against any undue changes in exterior temperatures if the earth about you grows hotter or colder. All of these things I have learned are

collected where they can be studied and your problems solved.

"In exchange I ask but one thing. You can dispense with us. Your plan for cross breeding is unnecessary now, with the improvements you can make. I request that you return us to the surface of the earth, or to the mine from which we were taken."

There was a murmur from the sedate seven. He could almost feel animosity pumping from them.

"Request refused," snapped the chief councillor. "The earth's crust must never know of our existence. We have taken unusual precautions to keep word of us from leaking. We want no raids from them."

It was useless for Hazelton to plead that the people above knew nothing of the secrets of the mechanical mole, could not manufacture the remarkably hard metal that enabled the sharp rotating screw to bore its way through the hardest rock. They were adamant. There was to be no returning.

"And the council had furthermore decreed," went on the chief councillor, "that you and the woman be subjected to breeding. Tomorrow you will report to meet the young women chosen for the experiment."

Hazelton went white with horror, knowing how Miss Ogilvie would feel. His eyes blazed with indignation. He wheeled and started toward his living quarters.

"I regret your decision," he said harshly. "I believe you will regret it too. I refuse to take the responsibility for what will happen. Do you want to exchange the cloaks, Orno?"

The councillors nodded the foreman leave to go. They hurried off, Hazelton tossing him the fake cloak while he clung to the one of asbestos.

They made the change swiftly, the Subterraneans who brought the older,

worn asbestos garments exclaiming delightedly when they saw the newer, more luxuriant ones. Like chattering children they filed away, while Hazelton hastily heaved the discarded cloaks into the shredder and chopped them into bits, mixing them with great quantities of useless ore to destroy their effectiveness if any of the Subterraneans tried to rebuild them.

Then he folded the real asbestos garment into a neat bundle and hurried away with it to the girl's quarters.

CHAPTER V

An Attempt at Escape

IT was the rest hour when all of Subterranea took a siesta. Being perfect totalitarians, they all obeyed the dictates. The great sphere slept except for the restless slaves clanking their chains in their misery in the quarters, and the sobbing girl crying her heart out in her own room over the horror that she had just learned confronted her on the morrow.

Hazelton called to her softly. In an instant she was at his side.

"You've brought it? The poison? The means of ending it all?"

"Not exactly. I've brought hope. We're making a desperate attempt to escape. Put this on. As soon as you see or hear escaping steam, make your way to the outside lock, the one where the mole is kept, the one where we entered. You know where it is?"

She nodded, unable to speak in her excitement. Then she managed, "If—if nobody—stops me."

"They won't. They'll not be able to stop you. The heat'll get them."

He turned and slid toward that smaller lock that led to the control chambers. The slaves saw him coming and lurched up to renew their abuses, but he fran-

tically signed to them to be still. Then he fearlessly stepped nearer and whispered his hopes.

"I know the secrets of the whole of this crazy place. I am going to make a stab at fighting out. I'll knock off your chains and take you with me, if you'll help."

They grouped about him, red eyes filled suddenly with hope instead of despair.

"But you've got to help. We must work fast. I want you to free the boys inside, while I turn on the heat. Then we'll rush the outer lock in a unit, seize the mole, and shoot for the surface."

"As easy as that," nodded a sarcastic miner who might have been a heckler jeering a peace advocate in a mine strike. "And what about them devils with their paralyzin' guns?"

"You'll be gettin' us nothin' but more torture," protested a poor wretch who looked as if he was already breaking under the cruelties of their masters.

Hazelton saw that their courage had been sapped, that they had lost confidence in everything but the retribution that the Subterraneans might heap on them.

"They'll be unable to reach us because of the heat. I'm turning steam into their world. We can claw through it, but they'll die."

"Not in them asbestos suits. Wasn't that devil of an Orno just telling us there'd be no more loafin' in the control rooms now you've made 'em newer and better asbestos jackets?"

Then he told them that every asbestos cloak except one had been destroyed, that the one remaining was in the hands of Miss Ogilvie, who would wear it in the dash for safety. The Subterraneans depending on his cloaks for safety would be cooked alive in the steam.

They took hope and urged him to

knock off their chains. He leaped to obey, for the siesta was fast dwindling away and they must strike at once, lest the trickery of the substituted cloaks be discovered during the next shift.

The lock opened to his whirling of the intricate array of wheels. Without bothering to clamp the outer door shut, he ripped open the inner and plunged into the control rooms.

"Boys," he called in an exulting voice, "I have come to attempt an out for us all. The others will knock off your chains while I step up the temperature inside. Their asbestos coats are gone. I'm turning on the heat. As soon as it gets warm enough inside to stupefy them, we'll make for the outer lock and the space mole. But listen to me and do just as I say. We can't afford to have a miss. This is our one chance."

HE turned to the pulsing tube that led down into the infernal heat of the earth's laval core. For untold centuries that seemingly indestructible tube that the originator of the whole scheme had installed by some secret hydraulic drilling method had been bringing the desired heat into that chamber to convert it into the cooling influence needed in that little world. Eagerly he reached for the valve wheel. Grimly he turned it farther and farther past the safety mark.

Steam hissed and roared and billowed about them. The fans sucked it into yawning tunnels, sent it swirling madly through channels usually reserved for cold drafts.

In the billowing steam the miners tore the last of their numbers free. Then they crammed into the lock, impatient to dash for the ship.

Hazelton restrained them with difficulty. "Remember those paralyzing guns," he kept urging them as he looked through the window in the chamber at

the thermometer inside the sphere.

A scream ripped from the throat of some Subterranean aroused from sleep by the heat. It was picked up and echoed by a score of throats. He saw figures struggling into the fake asbestos cloaks as the temperature mounted swiftly. Behind them the hissing roar of the steam seemed to increase, although he had dogged the inner door shut.

The weird natives of the place were in torment. The thermometer reached eighty-five and mounted swiftly. With a single leap it touched ninety, jumped on toward a hundred.

Hazelton called out with alarm. It was no longer a question of holding his men. The Subterraneans were groveling everywhere in torment. Miss Ogilvie was fleeing toward that outer lock, unrecognizable in her asbestos cloak.

Too late, he realized his error. There had been no need to send that live steam into the shell. The mere cutting off of the cooling blasts would have sufficed to heat the sphere to a degree unbearable to the natives, since the outer earth immediately about it was terrifically hot. Now he had endangered their chances of escape by shooting the temperature up at an alarming rate.

"Come on, boys. Make a dash for it."

They sped with one accord toward the big lock where that mole awaited them. The air within the sphere was already so hot that they were gasping with panting lungs before their dash. Half a dozen forms crumpled before they reached that huddled figure in the asbestos cloak at the door of the chamber.

"Bring 'em in," screamed Hazelton, "while I get the door open."

He set the wheels to spinning. It seemed an eternity of blistering heat before the massive door swung and the

survivors staggered weakly through. Hazelton, clamping the great door shut desperately, saw the dome glowing red hot and beginning to bulge inward under the heat and pressure from without. Then he dogged the door shut, just as a tumbling destruction poured through the domed roof with a mighty, crashing and rendering of the intricate scientific machinery, while the great control room lifted on the wings of an explosion.

The men with him cowered in horror as the lock shook with the upheaval beyond its walls. But it was constructed of even thicker metal than the main sphere, since it was subjected to so much greater variations of temperature when the moles were run in and out. Although its walls were blistering hot and beginning to glow a dull cherry red in spots, it was still intact.

"Listen," screamed Hazelton through the pandemonium of terror that seized the men scrambling madly to get into the mole, "this thing can't carry us all back to the earth's surface unless many of you are numbed unconscious by that spray. We'll all die unless some of you allow me to spray you into that trance that requires no oxygen."

They demurred and grumbled. The cherry spots on the walls spread alarmingly. The heat grew terrific.

"You've got to, or we're all lost," he pleaded. "Those dogs won't work and the door will expand beyond opening. We'll cook where we are in another fifteen minutes."

That panicked them. They agreed to cram into the passenger space and to subject themselves to the spray. All piled into the mole, crowding it tightly. Hazelton reached for the spray gun and shot the freezing liquid over them.

AS soon as they were silenced, he leaped out, borrowing the cloak

from the girl, and spun the wheels that operated the dogs. As the ponderous door opened, a gush of hot earth pushed inward, but he leaped for the mole door, clamped it shut after him, and passed the cloak to the girl.

In another instant he was at the controls.

He had studied them carefully when he came upon the blueprints among the other papers. Being of an intensely mechanical turn of mind, he had rehearsed and rehearsed just what he should do.

He started the atomic engine with the pressure of a button, jerked the reverse lever for the vanes. The mole began to back slowly, met the slowly entering wall of hot earth from beyond the door, and gripped steadily into it.

Back and back and back they ground. He reached for the tilt bar and dropped the rear end of the churning chamber. Then he lifted the nose higher, until the gravity spirit level proclaimed that they were headed straight up. Slowly he eased her out of reverse and, grinding the gears but slightly in shifting, started her to clawing upward.

He waited fearfully, watching the altimeter scale, aware that he had overloaded the engine in his eagerness to save every man. The auger vanes roared and snarled as they cut into the rock. The cuttings grated and ground past the shell toward the rear as the irresistible drive of those moving vanes carried it back and packed it firmly behind them. Slowly, steadily, the heavy ship was rising through solid rock.

Up and up and up they went. The human freight in the rear compartment was like a collection of grim wax figures, staring out of eyes that could move from heads and bodies utterly devoid of motion.

He knew but one fear, yet that one mounted as they bored steadily up-

ward. The inventor of the mechanical mole had perfected a means of increasing the surface of those whirling vanes so that they would grip water with sufficient power to lift the contraption to the surface of even the deepest part of the ocean and propel it to shore across untold miles. But he had evidently not followed his specifications in perfecting the device, for the control for increasing the function of those vanes was not as pictured on the original plans. If they came to the surface at the bottom of some lake, river, or sea, he would not be able to propel their heavy craft through water.

The worry grew into a mania with him as the hours passed. He recalled how much of the earth's surface is covered with water. It would certainly be a horrible thing to get so near to safety, only to die because of that change the inventor had made in his controls when it came to actual construction.

They were beyond the intense heat now and churning upward through the oil-bearing sands. The sucking slump and slide of the sands made progress slow, but the speed of the vanes was stepped up to maximum, and they continued to climb.

Experimenting by tilting their nose a trifle, he learned that their speed upward increased if they went at a slant instead of trying to rise perpendicularly. Accordingly he shot upward at an acute angle.

"We're going to make it," the girl screamed at him exultantly. "Won't the blue sky look good?"

He managed a grin and a nod. He wasn't so sure about seeing that sky. They might never see anything outside their mole except the murky water visible through that forward window.

The slow hours churned past with nothing to mark them but the variety in the sound of their progress which was

determined by the material they met and passed through.

Up and up and up, hoping, fearing, dreading, exulting. As the girl's assurance mounted and the altimeter finally proclaimed they were almost at sea level, his foreboding increased. At any moment he expected to hear the swish and gurgle of water, to see that steadily mounting needle hover and stand still.

He breathed easier when they reached sea level. The greatest part of the earth's water lay under that. But there were still rivers, ponds, and lakes. A mere duck pond, filled with soft ooze, might be enough to trap them.

Panic gripped him so that he overlooked the obvious possibility of reversing and grinding along at another angle to rise elsewhere. His mind, already frantic from the haste and horror and exhaustion of their imprisonment, could not function normally. The one obsession mastered him, that they must die so near freedom if they struck water.

IT came at last. They had slipped into an ever softening earth that barely swished past them. The earth grew softer, more liquid. Their progress slowed. They churned in a silt, barely holding their own as the silt grew thinner to the churn of those gripping vanes that brought water down upon them from above.

He frantically stepped up the speed. The vanes raced madly. The mole lifted a few feet.

"Open the window cover and see if our nose is out," he gasped. "I can't seem to make another foot."

Fearfully she slid back the metal curtain that protected the thick glass. There was nothing visible over them.

He touched a button and sent the powerful searchlight beam into that murk. She saw only muddy water pour-

ing at them in response to the pull of those madly churning vanes.

He touched her. She turned to look at him.

"There's an escape lock that accommodates one person," he called. "If you can swim, you'd better try it. I'll hold her here while you get ready. When I flash a warning, you open the outer lock, I'll shut off the whirring of the vanes, and you slip through."

"What about you?"

"I'll stay and shoot the others out—if they can swim."

"But in the end?"

"I'm afraid we can't all make it. But I'll be happy—knowing I brought you back to your man. You see—there isn't any girl up here for me."

Her eyes danced with pleasure. She kissed him suddenly, full on the mouth.

"Then we send out the men—and die together. I can't swim," she lied as he started to protest, "and besides I want to die with the man I love—if he can't escape."

He made no further protest. One by one they aroused the numbed men, explained what was required of them, and sent them out through the escape chamber. Each time the mole sank as the vanes stopped revolving, but each time the mole worked up. Finally, when they lifted to release the last miner, they snagged on a stump as they started to descend.

"Quick," called Hazelton, as he set the pumps to blowing the chamber. "Squeeze into there before she tears away from the stump and sinks. Maybe we can make it."

"Not unless you come too," she said stubbornly.

He kissed her pouting mouth and squeezed after her into the narrow compartment. They opened the outer door. Chill water flooded in at them. In an-

other instant he had shoved her out ahead of him and was swimming up toward the surface, carrying her with him.

It was dusk on the small lake and chill. But the first of the miners to escape had reached shore and dismantled an old rail fence to shunt floating bars out to the others as they came shooting up. The last of the escaping men had explained that the others might follow, so the little pond bobbed with long floating chunks of split rails to buoy them.

They had barely reached the shore when a surge in the center of the pond attracted their attention, followed by a series of gas bubbles that came up and burst with the stench of rotting vegetation from the muck at the bottom of the pond.

"There goes the proof of our experience," said Hazelton, aware that the weight of the mole had torn it from the stump and allowed it to sink back into the fathomless muck. "But I'm just as well satisfied. For my part I can't forget that place too soon."

The girl huddled close to him as they built a fire with matches one of the men carried in a water-tight case. Her face turned up to his, her eyes shining.

"There is just one thing about it all I want to remember," she whispered, shuddering in recollection of the horror, then beaming again.

She did not need to tell him that that was the way he had rescued them, for her eyes were telling him that in a language that he did not need an interpreter to learn.

THE END

The Country Where Colonel Fawcett Disappeared

AFTER a heavy downpour in the river towns of Matto Grosso, Brazil's fourth largest state, you can see whole families, father, mother and the children, searching their back yards for gold and diamonds. In the vicinity of Cuyaba alone a million dollars worth of diamonds are found each year.

All the settlements in Matto Grosso are on the tropical rivers. When news spreads that a big diamond or a new deposit of gold has been found, a small town will become a sizable city overnight. These river towns are called "garimpos" and their inhabitants "garimpeiros."

There is no way to police a tropical wilderness of 570,000 square miles, but curiously enough, there is practically no crime. Perhaps this is because the inhabitants make as much money as they need and spend it as fast as they make it. They say a lucky garimpeiro will even pay the debts of his less fortunate fellows.

The settlements have movie theatres, cabarets and gambling houses. No garimpeiro can enjoy himself without calling in all the neighbors to share the fun. Even the poorest is happy because he is always dreaming of finding a big diamond. Then he too will become the benefactor of all.

Matto Grosso is big-game country and Theodore Roosevelt senior once hunted there. Not long ago his eldest son visited the state. It was in this

region that Colonel Fawcett disappeared. For years there have been rumors that he is still alive and held prisoner by the Indians. Many expeditions have gone into the jungle in unsuccessful attempts to find him.

A correspondent for a Rio de Janeiro paper who accompanied a hunting party into the Matto Grosso jungle was not enchanted by the country. "Hunting in the Matto Grosso jungle is as dangerous as it is strenuous. Not only must one look out for the sudden attacks of wild beasts, but also for the myriad poisonous insects always present and ready to attack. Walking through the rank jungle is painful and risky, with its endless swamps and snares. Reaching the heart of the jungle was not an easy matter. Our expedition started during flood time. The entire countryside was difficult to penetrate. Mud and water everywhere, for days and days a panorama of water and mud."

The Matto Grosso is not so isolated as it was even a short time ago. Though many of its 570,000 square miles are still unexplored, the Brazilian army engineering corps have strung telegraph wires connecting the settlements. The Paraguay River was formerly the only way to get into the country, but now the Trans-Brazilian Railway makes it more easily accessible.

Morrison Colladay.

When the



Krupa
39.

Lettimer lashed out with his fist. Time was short and delay meant death



Moon Died

By DON WILCOX

EARTH'S day of reckoning was near; the Moon was breaking up. Ray Lattimer had eight months to finish the space radio before disaster came . . . then greed interfered.

CHAPTER I

The Moon Is Coming!

TRUE to the predictions of astronomers, a stray comet swept past the earth. It slipped by safely but left seeds of disaster in its wake: it drew the moon out of its course. That satellite accelerated earthward. It spiralled into the earth's danger zone seeking a new orbit. Calamities followed.

Great tides, hundreds of feet high, rolled over the seaboards and washed cities into the ocean. People fled to the mountain tops. The earth groaned, storms thrashed, the seas went mad. The land was bombarded with deadly meteors as the moon's icy mountain peaks cracked and hurtled into space.

Days were blackened and nights

were filled with ghostly white light as the huge moon circled close. That menacing satellite covered one fifteenth of the visible sky as its bulging form hovered over the earth. Old Luna and her mother planet were headed for a crack-up.

How soon? Months—years—centuries? Terror stricken Man huddled close to Mother earth and waited.

Life went on. The hail of meteorites slackened a little. The giant tides found a new rhythm. Shrunken continents assumed new coast lines. Man crept forth and began to repair his civilization.

He redrew his maps of the continents, he burrowed deeper into the earth, he built protections against the surging seas and the raining meteorites,

and—out of his human weakness, optimism—he gambled heavily upon the safety of his flimsy devices. But his days on this earth were numbered.

Scientists swarmed the observatories to watch and calculate and predict. Their reports were never hopeful. It was common knowledge that each day the menacing egg-shaped monster drew closer. Each day it bulged more dangerously. Soon it would crack and send great fragments crashing to earth; and when it did so, no living thing would stand the heat of that concussion.

Space ships did a land-office business. Hordes of people migrated to Mars as their ancestors had migrated to America a thousand years before. Everyone who could afford it applied for reservations. Interplanetary Lines could not expand its facilities fast enough.

The space pilots and hostesses were badly overworked. They frequently snapped under the strain. They were fighting time with the fever of rescue workers who know the dam must soon burst.

More Space Pilots Wanted!

Advertisements blazed from the walls of the underground streets. A new call was issued on the day that Lane Carruth reached the age limit. He registered eagerly and presented his qualifications. The official was impressed.

"So you trained under Ray Lattimer?" he said, eyeing the boy.

"Yes, sir."

"There's no question but what we'll use you. Come back in the morning."

Lane rushed to the underground station and caught a train for Rocky Mountain Observatory where the International Conclave of Scientists was convening. He must find his sister and Ray Lattimer and tell them the news.

VIVIAN CARRUTH and Ray Lattimer sat on a vast glass roofed

porch, one of the most popular lobbies at Rocky Mountain Observatory. The evening sun flashed among the mountain peaks. On the eastern horizon the wide brim of the moon appeared like a bloody knife edge slowly lifting.

More than the moon, however, the faces of the scientists engrossed the attention of the couple, as the endless line moved down the escalator from the tower of telescopes. Anxious faces, tense lips, nervous eyes. *

The young couple sat in silence. There was no use commenting on what they saw. They had watched the fears of these men grow from year to year as they attended the annual Conclave.

But no amount of fear or worry could help, Vivian told herself. She was already doing everything she could. She was a space hostess for the Interplanetary Lines. That was how she had met this keen-eyed engineer at her side. He was not only a pilot—he was something of a genius. He had charted routes and contributed inventions to space navigation, had trained scores of pilots, had dared to help with the surveys of the moon, and now—

Vivian's thoughts broke. What was Ray Lattimer's new work? He had never told her. She had seen him so little. This was her first day off in months. Why had he been so anxious for her to attend this Conclave with him?

Vivian's eyes widened in surprise. Lane was coming through the crowd toward her.

"If it isn't my long lost brother! What in the world are you doing here?"

"Looking for you two," said the gleaming-eyed youth. "I've come all the way from Interplanetary headquarters to spring the big news."

Ray Lattimer read the boy's face. "You've signed up."

"Righto. I report tomorrow morn-

ing." Lane's exuberance faded as he looked into Lattimer's cool eyes. The trainer of pilots could express volumes of disapproval without speaking a word.

"What's wrong?" Lane asked.

"Sit down with us," said Ray. "What does your sister think of all this?"

Vivian did not understand Ray's misgivings.

"It's exactly what I expected. With all the training and experience you've given Lane he ought to be an A-1 pilot."

"He will be," said Lattimer, "but signing up for Damon D. Sheebler and his Interplanetary Lines—at a time like this—" he paused thoughtfully.

"I don't get it," said Lane.

"Take a look at those tell-tale faces coming down the escalators," said Ray. "Tomorrow their dire prophecies will scream from the headlines and over the radios, and thousands of new applications will pour in to Sheebler for quick voyages to Mars."

"Well, that's why he needs more new pilots—"

"And more old ships," Lattimer cut in.

"Old ships?"

"Let me tell you something," said the veteran pilot.

The three heads gathered in close. "Damon D. Sheebler's great monopoly is coining money hand over fist. I've no objection to that. If he could build ships and train pilots fifty times faster he still couldn't take in the money as fast as his customers are waving it at him. But—if he wants to be unscrupulous, there's nothing to prevent him from dragging out his worn-out ships and putting them into use—"

"Ray!" Vivian protested, "you surely don't suspect Damon D. Sheebler, the president of the greatest space line in the world—"

"I've suspected him for a long time," said Lattimer, "and my little encounter

with him a month ago didn't improve my opinion."

"You talked with *him*?" Lane's youthful face glowed as if he had suddenly come into the shadow of greatness. To him there had been no greater name than that of Damon D. Sheebler.

"He sent for me to come and make technical examinations of all his ships. He paid me big money—in advance. I found a few that could be put back into service, but I condemned all twenty of the KPB series. They're only two years old but they're about as safe as starting to Mars on a firecracker. I told him to junk them. It made him angry. He faked a report and tried to force me to sign it."

"Not really," Vivian gasped.

"What'd you do?" asked Lane with one eyebrow up.

"Started to walk out on him. He blocked the door and used some language I'm not used to. I lost my temper and smacked him, and—well, that's how we parted."

"Gee!" Lane's mouth spread in astonishment. "And to think you used to be his crack pilot—and his trainer—and his technical adviser—and you popped him! Gosh!"

Vivian was silent. She was no doubt disturbed by this startling news, but her eyes showed a glint of admiration for Ray's rash behaviour.

"So let me warn you, Lane," the engineer narrowed an eye at the boy, "if Sheebler puts any KPB ships back into service—be sure you keep out of them."

"Of course." Lane sat thoughtfully for a few minutes, then rose to go. "Just think, I'll soon be taking off for Mars—maybe tomorrow—in a ship of my own! I'll see you at the American Headquarters at the other end, Sis."

"Don't forget what Ray has told you," Vivian warned.

"KPB. I won't forget."

"One more hint," said Ray. "Sheebler might be snake enough to resurface those old boats so you'd never know them. Check up on details. The KPB series had octagonal windows built into the framework in the rear, you know. That design has been obsolete for two years."

"Okay. See you on Mars."

NEITHER Vivian nor Ray voiced the concern they felt over the high spirited lad, after he had boarded the train back to Interplanetary Headquarters. His glowing ambition to be sole commander of a space ship had not faded through his training period. He was quick, efficient, and willing—even eager—to take a chance. Sheebler's game would lure hundreds of his kind, thought Ray Lattimer.

Vivian and Ray sauntered back to a secluded window. The sky monster, still creeping up from the black mountainous horizon, cast its baleful light upon their faces. Even though panes of invisible glass separated them from the out-of-doors, the lazy white giant seemed close enough to touch. It consumed hours in rising. To Ray and Vivian that was the natural thing; though some of the old people loved to tell how swiftly it used to skim across the heavens in the times before the month had been so calamitously shortened.

Vivian broke the silence. "If the end should come soon—I know it's criminal of Sheebler to take a chance with condemned ships, but thousands are going to be left here to perish anyway. Even a rickety space ship gives them some chance. After all, there's nothing else."

Ray was slow to respond. "There might be," he said bluntly.

The pretty girl's lips parted in surprise. She wanted to ask, "But what

else could there be? How can anyone hope to escape this doomed planet except in space ships?" But she waited in silence. Evidently there was something revolving in his mind that he wasn't ready to express. Instead he took her in his arms and kissed her.

"Come," he said. "It's time for the opening address of the Conclave. Let's find some comfortable seats in the balcony. Good chance for you to catch up on your sleep."

CHAPTER II

Conference of Scientists

THE most conspicuous thing before the assembled scientists was the moon. The huge television screen at the front of the auditorium revealed it in full color, framed in corners of black sky. Speakers often pointed out significant marks upon the satellite as they set forth their theories. At last the chairman introduced a slender, white-haired inventor who took the stage with impressive dignity. Lattimer grew tense.

"Here comes the bombshell," he whispered to the girl at his side.

"Professor Buchanan? I remember him. His speech always begins the same way. 'I assure you the moon will not strike this year.'"

Ray nodded. Vivian continued. "But I've heard he is a crackpot who wastes his time on impossible inventions. Surely you don't take any stock in his notions, do you, Ray?"

The young engineer did not answer, for the white haired man began to speak. There was strength and confidence in his voice, but his words spelled doom.

"Fellow scientists, I assure you that the moon will strike within a year. In fact, the end will come in two hundred

and forty days!"

A tremendous confusion ensued throughout the assembly. It was minutes before the professor could continue. He turned to the living chart behind him and indicated with a pointer the places where fissures would soon appear. Then he plunged into a bewildering series of mathematical arguments. Ray sat on the edge of his seat.

Vivian was lost. Her mind wandered. She saw the great Damon D. Sheebler sitting in the speaker's row, and she knew why he was there. Each year the Conclave recommended expenditures to the governments of the world for the benefit of humanity, and they never failed to reward their most generous sum to Sheebler's great interplanetary space-ship monopoly.

Ray clutched her hand. "Now it's coming."

"You have heard my theory," the white-haired professor was saying. "In a moment I shall invite your questions. But there is one thing more I must say. The only hope for the millions of people on this planet is to migrate immediately. The past decades have proved that space ships will save only a small fraction of the population. The few who can afford the costly passage. Already our colonies on Mars are crying for laborers—but how many laborers have answered the call? Precious few. They can't afford it. Our governments have repeatedly refused to buy transportation for anyone because they think it is a lost cause."

"It *is* a lost cause!" came a voice from the audience.

"It is *not* a lost cause!" the speaker pronounced in a powerful voice. "If the governments will grant their appropriations to me at once I shall transport people to Mars by the millions—" He was interrupted by a chorus of laughter and boos led by Sheebler. He cried on:

"Within five months I shall be ready with the most gigantic machine ever invented—"

Another volley of boos.

"If you will only back me with public money . . ." Boo! Boo! " . . . transport the entire population free of charge!" Boo! Crackpot! Boo! Silence! S-s-sh! "The foundation of this great machine has already been laid near an unlimited fuel supply. All we need is money, labor, cooperation. The invention has already been proved!"

This time the boos were drowned in a clamor for silence. The chairman commanded order. The professor spoke on in a fiery manner.

"Let me remind you that there are three thousand of us here in this Conclave. Everyone of us expects to get away to Mars in time to save his own neck. Most of us have already made reservations. But let me tell you, with the cataclysm only eight months off, we'll be fighting among ourselves for places."

There was a piercing silence.

"And how many more times will the price of the passage be raised in the next two hundred and forty days?"

THE stocky, black haired Sheebler bounced to his feet. "I protest!" he cried.

The white-haired professor nodded with dignity to the angry space-ship magnate. "Mr. Sheebler protests. That is natural. If my invention is given a chance he will cease to reap the fat income with which he plans to become the financial czar of our new civilization on Mars."

"Why, you—" the enraged Sheebler was restrained by those near him.

"Mr. Sheebler will of course deny this. I wonder if he will deny that he is putting twenty outworn space ships

back into service even though they were condemned."

A rumble of protests. Vivian looked at Ray. "How did he know that?"

"I told him," said Ray.

"You—?"

The chairman brought the house to order, and asked the speaker to confine his remarks to his subject.

"Then let me conclude by saying that even if you are content to rely completely upon space ships, you should remember that under the present monopolistic arrangement all of your eggs are in one basket. A single meteorite could crush that basket. I anticipate a renewed menace of deadly meteorites this very week from the moon's outer shell. That is all. I am ready for your questions."

The president of Interplanetary Lines again jumped to his feet, gave his chin a haughty thrust, and addressed the chairman with an air of condescension. "I believe our illustrious speaker mentioned an invention." The word invention was sure to evoke laughter from those who considered Buchanan a crackpot. "Will the illustrious gentleman please tell us whether this is the same invention he has been prating about for the past ten years?"

The white-haired man on the stage nodded. "The same one, Mr. Sheebler."

"That's all I want to know," said Sheebler in a subtle tone. He turned to the audience, whirled a finger near his head as if to say, "Crazy," and sat down. A hum of ridicule filled the room. Buchanan did not flinch.

"Ten years on the same invention," he resumed, "just as Noah spent many years on his Ark. People laughed at Noah—until the floods came."

Another questioner rose, a delegate from a foreign land who was puzzled by all these overtones of ridicule. "I wish to know whether any other scien-

tists besides you are working on this invention?"

"I am proud to answer that for several weeks I have had invaluable assistance from one of the most brilliant young scientists in America, who is present at our meeting tonight. He has asked me not to reveal his name."

The scales dropped from Vivian's eyes. Hundreds of heads in the audience craned this way and that, wondering who the mysterious assistant might be; but Vivian knew.

"Ray Lattimer!" she whispered, half in reprimand. "Now I know why you've been going around in such a dreamy mood. You're working on Buchanan's schemes."

"Are you glad to hear it?"

"I don't know. I always thought he was crazy."

"He may be, but I'll swear he's got the most revolutionary machine you ever heard of. They say the telephone and the radio were marvels in their day. But this invention—Listen—"

SEVERAL questioners had clamored for the professor to describe the nature of his invention. He silenced them and gestured to someone off stage who brought in a sizeable chart. It contained a simple diagram of the atom, which every scientist at once recognized.

"A few centuries ago," he began, "we learned to transmit sound electrically by constructing delicate mechanisms that were sensitive to the individual sound waves. Later, in television, we learned to transmit light waves electrically, by breaking up the image into tiny clusters of waves. In either case we were successful only because we had learned to deal with tiny units of energy—sound waves and light waves.

"Our mechanical equipment has come a long way since the perfection of

full-color television. We have long been able to take the atom apart and put it back together again.

"I struck out on the hypothesis that matter itself might be conducted electrically if a sufficiently intricate mechanism could be devised. For all matter, however solid it may feel to the hand, is in the final analysis not solid substance. It is simply energy-filled space.

"Lest my explanation become unnecessarily complicated, I shall not trouble you with the details of constructing the transmitting and receiving sets, to which my time has been devoted for the past ten years."

An impatient interrupter voiced the curiosity of the audience, "What were your results?"

"My first successful test," the professor answered "was performed three weeks ago with a few small objects—a key, a paper box, a bar of soap. They were placed on the moving belt which rolls into the transmitter at high speed. At the instant of reaching the area of wave detection they disappeared, reappearing at the same time upon the rolling belt of the receiving set some fifty yards distant." *

Incredulous whispers and murmurs of wonder passed over the auditorium.

"We immediately moved the receiving set to the distance of half a mile and tuned it in again at that point. Objects leaped the gap with the speed of light.

"To prove that our transmission of matter was virtually instantaneous we sent a burning match into the transmitter. It emerged from the receiver still burning. We were uncertain what the effect upon living things might be. We made our first trials with plants and dis-

covered that they jumped through space uninjured. Next we tried a few forms of animal life—a small turtle, later a kitten and a dog. In each case we were successful. As the dog shot into the detection area of the transmitter it was instantaneously dissolved and was reformed at the receiver, half a mile distant."

"No!" cried one of Sheebler's cohorts in a taunting voice. "Bark and all?" It was a cynic's quip, but the inventor came back with a simple statement of fact.

"Any simple radio telephone will transmit the bark."

The professor continued:

"Next we increased the distance to twenty-five thousand miles by directing the radio impulses around the earth. After a slight difficulty in tuning, we succeeded in forcing material objects around the earth in one-seventh of a second." The white haired professor could not restrain his enthusiasm. "Fellow scientists, I am convinced that this application of radio will bring the greatest revolution in transportation the world has ever known."

The professor's sharp eyes saw the gathering storm of disbelief in the faces of the Sheebler faction. No doubt a large share of the scientists before him would think his words incredible. But enemies could not prevent him from bestowing his great boon upon mankind.

"Finally, my fellow scientists, I beg you to come to my Laboratories at Oil Plains to examine this invention and study the secrets of its mechanism; for who knows but what a giant meteor may crash through our barriers at any moment, putting an end to any of us—and our ideas with us. This invention must not be lost to the world."

The applause that followed was greater than the professor had expected. He had apparently aroused great inter-

* Since the energy of sound and light can be converted into electrical impulses, forced through space, and regenerated into the original form at the receiver, why not the energy of matter?—Ed.

est, if not faith, in his space-leaping machine.

RAY LATTIMER studied the features of the lovely girl beside him. She was plainly bewildered. This was like magic. One could not believe without seeing. And yet it must be true. For Ray, whom she trusted more than anyone else in the world, had been nodding eagerly at every statement the professor had made.

Sheebler marched to the stage determined to shake the faith that was gravitating toward the visionary inventor. The stout dark man thrust his heavy chin this way and that as he shouted his powerful venom. At his best he was a master at sarcasm; but the ground had been shaken beneath his feet in the past few minutes, and now his voice revealed the rage that fought within him.

"How you can sit and listen to such insipid talk is more than I can understand. We have one task before us—to build more space ships and transport more people." Applause. "And this erratic dreamer would have us stop in the middle of our race for life, to go off on a wild goose chase. If this man who calls himself an inventor because he muddles around in a laboratory (laughter) has actually performed this impossible black magic, why didn't he put the machine in his pocket and bring it along to the Conclave and give us a look at it—along with the turtles and puppy dogs?" Laughter and applause.

The speaker took up a tone of bitterness.

"Fellow scientists, you are being mocked. We're living in the last years of the earth. There's no point in clutching at straws. It's time to board space ships in a quiet orderly manner, awaiting your turns. If you wish to speed up the procession, then demand that your

governments allot more money for my factories. But don't be hoodwinked into thinking you've got only eight more months. The moon will run its course. There's plenty of time. We scientists are too sane to be deluded by an alarmist—who even tries to tell us that this week the moon will give us bigger and better meteorites. How can anyone have the effrontery to predict—"

The irate speaker was suddenly drowned out by a roar from the emergency loud speakers.

"E-e-e-emergency broadcast! E-e-emergency broadcast! Everybody under cover! A terrific blast of meteors is falling near the Atlantic! Everybody under cover! Meteor shower! Meteor shower!"

Confusion ensued. Such general warning signals were rare. The men of science were at once in motion—needlessly, for they were comparatively safe in this well protected pocket deep in the Rocky Mountains. The chairman shouted at them for several minutes before they recovered from their fright and settled back into their seats. At last they quieted.

Sheebler floundered in an effort to proceed. His words of reassurance sounded flat. He resorted to sarcasm again.

"This little shower of clods has come just in time to enable our Master Mind to say, 'I told you so.' No doubt he will claim this is proof that his prediction for a bad week—"

"E-e-e-emergency broadcast! E-e-emergency broadcast!" boomed the speakers. "The American Capitol has been struck by a huge meteorite, reported to be one of the largest ever known. A terrific loss of life is feared. The damage of the impact extends over hundreds of miles. Not even a crude estimate of the casualties is possible at this time. It is believed that much of

the Capitol city has been crushed deep into the earth. . . ."

Pandemonium broke loose throughout the auditorium. Ray Lattimer did not wait to see what happened. In his swiftly working mind he had already embarked upon a course of action.

"I'm leaving you, Vivian. I've got to get to the Capitol by the quickest route. I'm taking Buchanan with me. I don't know how long the earth is going to last, but we've got to make a try—get some government money—if there's any left to get. It's up to Buchanan and me. We've got to build a super-model of the professor's invention—the most powerful radio the world ever saw."

"Here—on earth—to be destroyed?"

"Here—with a receiver on Mars—to deliver everybody from the great crash. There's no time to lose, if the professor knows his moon; and I believe he does. So long, Vivian."

For a short moment the girl was lost in his feverish embrace. He looked at her intently.

"Won't you give up your hostess job when you get back to Mars—and wait for me there?" Ray feared his question was futile, for nothing could shake Vivian from her dangerous profession, it seemed. "Won't you—after what you've learned tonight?"

The girl thought of the frenzied passengers who depended upon her services. She shook her head.

"Then take care of yourself. Call me if you need me. I'll be with Buchanan at Oil Plains. Look out for Sheebler. So long."

CHAPTER III

Sheebler's Treachery

AT the headquarters of the Interplanetary Lines the following day,

Lane Carruth sat impatiently in one of the underground offices where he had been waiting since an early hour. One report after another came in over the emergency speakers on the stunning disaster at the Capitol. Every new bulletin stirred the anxiety that burned within the young pilot. His chance to be of service. His share before it was too late. His honor, for he pictured himself steering a load of passengers safely into the port at Mars.

Hell-fire. Why wouldn't they let him start? Even with the thousands of crowding, hysterical people jamming the waiting rooms and crying to go, he must wait until Sheebler came to approve him and assign him to a ship.

His friends came to see him off, wearied of waiting, bid him bon voyage, and left. At mid-day Vivian found him, gave him the startling news from the Conclave and repeated Ray's warning before boarding her scheduled ship.

Finally Sheebler arrived. Lane saw him pass through the offices. Another hour of waiting. At last the young pilot was called.

He was conveyed directly to a shining new ship that was already loaded with passengers. The great Sheebler himself stood by the entrance and gave him his final instructions before he mounted. The executive's orders were rapid, incoherent. He would tolerate no questions. He was anxious to get Lane aboard.

"Get your air chambers closed and get off—and be quick about it."

It was the very order he had been living for. The thrill of anxiety was still surging through him as he mounted; but Sheebler's rough-shod manner stung him. His suspicions rose. His alert eyes caught this detail and that.

"Octagonal windows in the rear!"

He darted back through the entrance

and leaped down the steps to Sheebler who was cracking orders at the ground crew.

"You've made a mistake, Mr. Sheebler. This is a condemned ship."

"It's a brand new ship," snapped the executive. "Get back in there. You're set to go off in four minutes."

"No, Mr. Sheebler, you're wrong. It's a KPB. It's condemned."

The dark eyes of Damon D. Sheebler lighted with fury. "Shut up, you fool. You're hired to run that ship."

"Then I quit."

"You can't quit. Get up there!"

"Not in that ship. I tell you—" Bold words for a recruit to hurl at the famed president. Sheebler was in no mood for words. His hand dipped into his coat pocket. Lane felt the point of a revolver against his side. It crowded him. No words were necessary. He moved up into the space ship with Sheebler pressing close against him. He edged into the control room toward the pilot's seat.

"Strap yourself in," Sheebler muttered.

The white faced lad obeyed, but he had no intention to plunge into space against Ray Lattimer's advice. Ray, after all, was his greatest hero.

Instinctively his fist swung into action. It did not land, for a sharp pain cut through his body. The control room muffed the dull bark of the revolver. Lane slumped in his seat. His eyes closed.

Doors went closed, locks snapped. A few seconds of silence. Then the earth roared and sent forth the great steel bullet whining into space.

GREAT meteorites fell that week. The largest ever known. Scientists turned to Professor Buchanan and volunteered their services. They were given sections of blue print, told to roll

up their sleeves and go to work. Scores of engineers and skilled technicians offered to help.

Lattimer had been successful in securing an ample grant of cash from the disorganized American treasury, and this contributed to popular confidence. As nations became panic-stricken from the new terrors of hailing meteorites and disorganized conditions, they caught up the rumor that a gigantic machine was being constructed at Oil Plains.

The inventors at Oil Plains were going to send people and goods through space!—send them to Mars! swiftly—safely—free! That was the story that raced over the continents and stirred the masses of calamity stricken people to hope. Already a small model was working. If only the great one could be completed in time!

People began to migrate to Professor Buchanan's corner of the earth. Expeditions were organized by many nations and races. The spark of faith that was struck among the international delegates at the Conclave became wildfire all over the world.

Ray Lattimer remained the cool, clear thinker at the vortex of a furious whirlpool of activity. Without him the veteran inventor would have been overwhelmed. Together they subdivided the multiplying responsibilities among competent leaders, so that their time was free for the crucial task, that of actual supervision of the construction work.

A dark problem loomed before them. How could they transport the receiving plant to Mars? It could be moved piece by piece on the space ships—but not if Sheebler knew what was happening, for he was bitterly hostile. Even if they constructed their own space ship for transportation purposes there would be a great danger that it would never

reach its destination. Since the catastrophe of the American Capitol violence had grown apace. Sheebler's tactics were becoming flagrant here on earth; in the space world he would know no limits. Ray let the worry hang fire.

It was worry enough to hear the loud speakers booming, "E-e-e-mergency broadcast" so frequently. The concentrated workers would stop and listen to the brief report of some new terrifying disaster; then, muttering prayers inwardly that Oil Plains might be spared this growing onslaught of meteorites, would plunge back into their tasks with renewed fervor.

One radiocast from Mars sent a chill through Ray Lattimer as he sat in his underground office revising a blue print. The fateful message told of a space ship that had made an unfortunate landing a few miles beyond the Interplanetary field on Mars.

"The pilot's name was Lane Caruth," came the announcer's voice. "He died a few hours after the crash. By a miracle, no other fatalities occurred."

"Lane!" The engineer bit his lips hard as he thought of the youthful, eager pilot. An ugly thing to happen to the lad on his first voyage. It couldn't have been a faulty landing on Lane's part; Ray was sure of this, for he knew the lad's skill. It must have been a faulty ship. Lane must have been too anxious; he must have forgotten the warnings in the enthusiasm of the moment. And now he had paid the price. Ray thrust the blue print aside. He could not work today.

"Sheebler's doings!" he swore to himself. When reports of ships missing, ships crashing, ships exploding came in a wave in the next few days, and then sharply ceased—as if a ban had suddenly been placed on such reports—Ray read between the lines and knew that space-boats had become death

traps. Sheebler was loading his passengers into anything—just to get their money.

VIVIAN'S voice came over the telephone. It was sweet music to Ray. She had a few hours between ships, she said. Could he take time off to see her? Could he! Soon she was safely in his arms.

Then through her tears she poured out the story of her dead brother.

"I was with him in his last hours. He told me all that happened. It was Sheebler."

"I knew it," Ray muttered. "That snake assigned him to a condemned ship. But why didn't Lane remember what we warned him?"

"He did remember," Vivian sobbed. "He knew it was a KPB. He resisted. Sheebler forced him on with a gun."

"What!"

"And then—when Lane tried to fight his way out—shot him!"

"Shot—!" Ray leaped to his feet as the heat of revenge surged through him.

"That's what killed Lane. It wasn't the crash. Poor kid. Sheebler left him unconscious at the controls, and when he woke he found the ship was shooting into space. Sheebler had set the ship off to cover up his crime. He doesn't care what happens to his passengers. I'm convinced of that now."

Ray's anger set him pacing across the floor. So the people bound for Mars were entrusting their lives to a murderer, a poisonous gold-grabber, who would fill a dead ship with paid passengers before shooting it out into the void.

"Lane fought for his life," the girl continued. "He treated the wound as best as he could, but death gained on him all the way. Somehow he hung on and struggled at the controls until

he brought the ship to a stop on Mars. A few hours later he died."

There was a long silence as the thoughts of the two paid tribute to the heroism of Lane's brief career. The low roar of a distant space ship rocketing into the skies brought them back to the present.

"You've got to quit Sheebler now!" Ray took the girl into his arms almost fiercely. "He's throwing lives away. He might transfer you to a condemned ship anytime."

Vivian shook her head. "I have a long record of service—"

"What does that mean to a beast like Sheebler? He'd do it without batting an eye." He shuddered to think what peril hovered over this pretty girl. Didn't she realize she was tempting the fates? She was brave—as brave as they come, ready to give her last ounce of energy to help frantic people to safety—and yet a helpless pawn of a treacherous space-ship magnate gone mad in his hunger for power.

VIVIAN'S dark eyes gleamed strangely. She was trembling. Her manner frightened Ray.

"What is it?" he demanded. "Does Sheebler know—that you know he murdered Lane?"

"Yes. One of his men reported it to him."

Ray gasped. "God! Then you've got to quit. He knows you've got the goods on him. You could blast his business sky high. He'll send you off into space the first chance—"

"No. I'm safe." Her tone of assurance puzzled Ray. "I'll go on with it."

"But you can't," he persisted. "I can't let you. For my sake, please—"

"For your sake I've got to go on being a space-ship hostess just as if nothing had happened. How else can you arrange to get your receiver to Mars?"

They searched each other's eyes.

"My luggage is never inspected," she explained. "In a few trips I could smuggle all of the small model receiver through. The rest should be simple."

Ray now understood what the heroic girl was offering to do. If the small model receiver could be smuggled past Sheebler's inspectors and if one of Buchanan's engineers could get through to Mars to reassemble it and find a source of power to operate it, a big problem would be solved. Parcels of material could be shot through space at once. The big receiver itself could be delivered to Mars, piecemeal.

"It's wonderful of you, Vivian. But I can't let you take the chance. Especially now that Sheebler—"

"I haven't any fear of Sheebler, Ray," she said confidently.

"After what he did to Lane—"

"It so happens that Damon D. Sheebler is in love with me."

"Vivian!" Ray was stunned. The cold face of the famed man came into his mind—the greedy eyes that shone like a viper's, the surly lips. That heartless devil dared to think of beautiful, young Vivian Carruth. Ray was inflamed.

"I've suspected it for some time," said Vivian in an impassioned voice. "But now I know. We had our first talk today and he made it very obvious that he has been interested in me all along. He had just learned that I was Lane's sister and he had a pretty story fixed up to try to square things. As if things could ever be squared. But I listened. Every word was revolting, but I couldn't afford to betray my feelings. Not with a smuggling job before me. I've got to keep his confidence until that's done. You'll let me do it, won't you, Ray? Then I'll quit."

Ray was reluctant to make the decision that was before him. "Are you

sure he doesn't suspect anything?"

Vivian was sure. "He's never seen you and me together. He trusts me completely. You've got to let me go ahead with it, Ray," she pleaded. "It's the one thing I can do. If you and Professor Buchanan succeed in making your great vision come true, I want to have had a small part in it."

"Small part!" Ray caught the girl's shoulders and drew her to him. "If you get that small receiving set through for Professor Buchanan, you'll have removed the biggest obstacle that confronts him."

"And you as well?"

Ray smiled and shook his head slowly. His thoughts had leaped from the invention to another dream that once held sway. It seemed remote now—that vision of a haven of safety for two—somewhere on Mars. Would it ever be attained? He glanced at the sky darkened by the massive scar-faced moon and wondered. Great was the barrier of space to be overcome, and narrow the margin of time. His ingenuity was pledged to fight these forces of nature in behalf of humanity. Suppose he should win. How little it would mean if he lost his personal battle. The menace of human treachery lurked before him, hidden like a coiled snake somewhere in the maze of events ahead.

"If that viper Sheebler ever lays a hand on you—"

"He won't, Ray. I'll keep out of his reach. Don't worry. As soon as I get your goods through to Mars I'll walk out on Interplanetary Lines for good."

CHAPTER IV

Buchanan's Success

PROFESSOR BUCHANAN in his famed speech at the Conclave had

given the earth exactly two hundred and forty days to go. The weeks were slipping by swiftly. The earth's deadline was rapidly approaching, if the professor's judgment was to be trusted. Several astronomers concurred in his opinion; moreover, his predictions of several storms of meteorites had proved accurate. Before half of the two hundred and forty days were gone a paralyzing fear seized the masses of waiting people.

The notorious Sheebler himself fell victim to the creeping fear. In private he watched his moonometer with a fearful eye. It told him the satellite was gathering speed at an accelerating rate. He ceased to report the moonometer readings to his employees. It was time to keep an iron hand over every pilot, hostess, ground man, office worker. Undercurrents of panic were being generated among them which he must suppress. He must keep them working to the last.

One day a space ship failed to return from Mars. It was not an obsolete ship—all of these had long since gone to their doom. It was a new ship, operated by a crack pilot. An ill omen. The next day the incident was repeated; and the following day three more ships failed to come in to home port. Pilots and hostesses were being drained from service by fear. They were deliberately staying on Mars—while thousands of good pay customers were still waiting on earth.

Sheebler pressed a button. He would nip deserters in the bud. His loyal, brightly uniformed thugs would turn the trick. One to each space ship would do wonders to keep the ships on schedule.

When Vivian had packed the last parts of the small model receiver into her luggage and taken leave of Ray, she thought she was departing from the

Earth for the last time.

"I'll be waiting for you on Mars," she had told him.

Their parting had been brief.

"When we get our giant transmitter working I'll come and find you," he said simply. "If the deal falls through—well, don't wait too long."

She boarded the space ship as usual and knew her luggage would give no trouble. But when a hulking, sinister looking person known as Clayface strode up in his purple uniform and addressed her with, "Hi, Baby. I'm keepin' you company and makin' sure you get a round trip," her heart sank. So she was to be chained to her job—chained to Sheebler to the finish. A dismal outlook. If she only could have told Ray. But at least she would get the baggage through. That was the important thing.

A few days later there was great rejoicing among a group of engineers and inventors at Oil Plains. The small model transmitter began to hum, and the objects which rolled into it would vanish.

Where did they go? Plainly they were dissolving instantaneously. Could the electrical impulses which they set in motion be brought back into focus at Mars? There were moments of tense waiting.

Then, nine and one half minutes after the sending began, the radio telegraph operator gave a loud whoop. "Here it is!" he shouted as he rushed to the group waving the telegraph tape. "'Everything coming in fine. Congratulations to Professor Buchanan. We have entered a new age.'"

Ray Lattimer was thrilled to the toes. He was the first to shake hands with the wet-eyed Professor Buchanan. He shook hands with everyone he passed on his way to the radio telegraph, and there he turned loose his elation in a

message of congratulations to Vivian. Her pluck had turned the trick.

He addressed the message to her in care of the American Colony Headquarters and comforted himself with the thought that it would reach her promptly.

THEN back to the whirlwind of labor. The decks were cleared for fast action. The mammoth receiver bound for Mars, now almost completed, lay in great stacks of parcels near the small model transmitter. Swiftly his crew went to work. Ton after ton of machinery shot into the mysterious sausage grinder to dissolve into radio waves.

"It won't be long now," said the professor, his visionary eyes gleaming triumphantly.

Ray returned his smile, but his mind was elsewhere. Why hadn't Vivian answered his radio telegram? Surely she was safe on Mars; he tried to put the worry out of his mind.

Still no word by the end of the week. What could have happened? Ray pounced on the radio telegrapher. "Find Vivian Carruth for me," he demanded. "She's somewhere on Mars—I think. And I want to be sure of it."

"That's what you told me yesterday," said the operator, "but I'll keep trying. By the way, here's another bulletin from the Mars astronomers."

Ray glanced at it and knocked it aside. Every bulletin from the American astronomers on Mars announced a greater bulging of the moon and warned that an early crack-up appeared inevitable. One didn't have to read Mars bulletins to know that. The moon told that to the naked eye. Predicted fissures had appeared and were showing deeper day by day. The millions of people who watched these changes were tormented by the mania of fear.

Never in history had there been such a concentration of people as now gathered at Oil Plains. Streams of population from all over the world took up transient headquarters in the shadows of this industrial city, waiting for the great promise to materialize.

The organization of this ever-growing multitude was naturally flimsy. Some lawlessness and plundering were to be expected under such a temporary arrangement. Yet, surprisingly, there was a spirit of order, for every national group had been assigned to a given area; and most of these groups maintained a semblance of government backed by national soldiers.

The groups cooperated well. Nations that had been at each other's throats for centuries forgot their grievances under the threat of common destruction. They waited a common fate—either collective deliverance or collective death.

When individuals became impatient there was a convenient safety valve—the roads that led to Interplanetary Lines. The headquarters of the colossal space-ship monopoly were only fifty miles away. The underground highways and railways connecting Interplanetary with Oil Plains became the most active traffic arteries in the world, as the volume of impatient ones grew.

The Shifters, as they came to be known, were always on the go. Any new rumor could set them into motion in the opposite direction. If they heard that the inventors had bumped into technical difficulties they shifted to Interplanetary and joined the endless queues that fought for space-ship tickets. If they heard that the price of tickets had tripled, they bounded back to Oil Plains. At the rise of a moon with new threats on its swollen face, they flew back to the space-ship center again.

Sheebler grew fat on Shifter business. He would sell the same reservations over and over again. He seldom missed a trick.

ONCE a destructive meteorite dropped into one of the outer camps at Oil Plains, killing several primitive tribesmen who had come from a far-off land. "The falling stones have found us!" The contagious superstition played into Sheebler's hands. Rich Oriental princes went scurrying to him for reservations, depositing their fine jewels into his treasury.

His wealth multiplied to proportions undreamed of. Millionaires, kings, treasurers of financial empires, thieves—all poured gold into his hands as the fear of tomorrow's death seized them. Any price for immediate passage! Sheebler's eyes began to gleam strangely. A maniacal gleam. Two passions were clashing desperately within him—to flee and to stay.

To flee, for a torturing fear lashed him constantly. Every glint of the ghastly moon at night, every gray shadow it cast at noon day shrieked, escape!—escape!—pack the treasure into a space ship and get off to Mars before it is too late! His maddening fear would not let him sleep. Through the dead of night he paced through his underground vaults, counting and recounting the boxes that were waiting for shipment.

But whenever he emerged from his treasure catacombs to see the lines of fear crazed people—to hear them cry at him to take their money and deliver them to Mars, the other passion recaptured him. He must stay—stay to the last minute and bleed these silly people to the finish. Stay until the moon scorched against the earth's atmosphere, then fly to safety with his untold riches.

He heard that the giant transmitter of Oil Plains was nearly ready. If it should be successful his harvest would end. If it should fail—

Night after night he sent forth bombing parties instructed to commit sabotage on the giant machine. They could not get through. He lashed them with vituperation and sent them back. They did not return. His man power was dwindling. He was losing his grip on his workers—and on himself.

Rebellion seethed through his offices and in his space ships. He used threats less and outright murder more. But violence is a boomerang: his own life was threatened by embittered workers. Fear heaped upon fear. He lived by the gun and the force of his mad will. Inwardly he was frightened and sick.

His eyes fastened upon Vivian as she alighted from a space ship. She and the pilot were followed by Clayface, the hulking uniformed guard. Sheebler called him aside.

"Your ship will have to do without a hostess until I give you further notice. I'm keeping Miss Carruth here."

"What's the idee?" asked Clayface in a jealous tone. For an answer he took a quick slap across the face.

"Shut up and take your orders."

As Vivian entered the dining room of the Interplanetary hotel she was aware that it was not Clayface who was following her. It was Damon D. Sheebler. He had regained his smoothest manner. He seated her at a secluded table, ordered dinners, and came to the point. He was transferring her. His nervous condition required the services of a trained nurse; her qualifications entitled her to the position. Her salary would be high, and she would be guaranteed passage to Mars with him in ample time to escape the final collapse. After outlining her responsibilities he added bluntly that she must not expect

to go beyond the confines of Interplanetary Headquarters.

"You mean I'm to be a prisoner here?" she flared.

"Not a prisoner, my dear. A trusted employee," he replied in a saccharin tone. "This is an honor to which you are entitled because of your excellent services, your pleasing manners, and—I might add—your beauty. Don't you think you might learn to like it here?"

"No," said Vivian.

"I advise you to try," he said warmly. He led her to her quarters. "You'll be very comfortable here. Unfortunately you will have to be your own housekeeper, as the maids have deserted the Interplanetary Hotel to join the mad crowds at Oil Plains. You've heard of the outrageous scheme of Professor Buchanan, I presume."

"Yes," said Vivian.

"Bubble," said Sheebler. "Simply a bubble. I wouldn't give it a thought. It's crazy. It's so crazy it's funny—millions of people swarming around, simply to be duped. Crowd psychology."

Vivian was silent.

"Well?" Sheebler roared in a burst of temper.

"Yes, it's very funny," said Vivian. "It's perfectly ridiculous, of course."

SHEEBLER eyed her intently, as if he had caught a false note in her voice. "It *would* be funny—if it wasn't for that damned assistant of Buchanan's" he said sullenly.

"You mean—"

"Fellow by the name of Lattimer. Used to be a pilot of mine until his brain began to sprout too many theories. If the professor's hare-brained scheme ever *should* come to anything—it'll be on account of him," he snarled. "And to think I had lots of chances to kill him . . . lots of perfect

chances—”

Vivian saw his hand go to his flushed cheek. He was still remembering the blow Ray had once given him. He glared at her. “What are you looking at?”

“I was—just thinking,” said Vivian quietly; then grasping for words that would allay his suspicions, she added, “Then you believe their machine might work?”

“No!” Sheebler roared like a beast in pain. “Didn’t I just tell you—”

“E-E-E-MERGENCY BROAD-CAST! E-E-E-MERGENCY BROAD-CAST!”

Sheebler paled as the heavy voice of the speaker cut in.

“The giant radio at Oil Plains is now sending people through to Mars free of charge. The first passengers to arrive have just communicated with the Earth, announcing that they reached Mars without injury. Please help to spread the news to everyone. There will be time for all . . .”

Crash!

Sheebler had seized a chair and smashed it against the loud speaker. He raced out the door, screaming “Cut that off! Cut that off! For God’s sake—” The air went blue.

Vivian seized her opportunity. Her suitcase was in the room. She shed her hostess uniform and got into street clothes in no time. She slipped through the corridors. She picked her way, fearful that she would run into Sheebler. Suddenly as the loud speakers choked off, Sheebler’s snarl sounded just ahead of her, “Quick, God’s sakes, give me a hook-up!” he barked at one of his lackeys.

She sped the other way. She reached the lobby. It was in turmoil. People were rushing with bag and baggage for the street exits. The underground streets were jamming with cars and

buses. A stampede of Shifters bound for Oil Plains—her chance to shake the Interplanetary Lines at last.

She was on the heels of the outpouring crowd. She had almost reached the street door when a new voice roared through the loud speakers.

“E-E-E-MERGENCY BROAD-CAST! E-E-E-MERGENCY BROAD-CAST! The giant radio at Oil Plains is *not* working. Everyone who enters it is killed instantly. Our earlier announcement was a mistake. You are warned to go to Mars only by space ships!”

“Sheebler!” Vivian gasped. “It’s trickery.”

As the announcement sounded over and over, the angry mob halted, groaned with anger, turned and surged back into Interplanetary headquarters. The tide swept Vivian back into the lobby. A hand clutched her wrist. She looked up into the grinning visage of Clayface.

“Hi, Baby. Where you goin’ so fast? Not runnin’ away by any chance? Cause if the big boss don’t want you, I’ve got a space ship waitin’. But I’m thinkin’ he wants you. Le’s go see.”

CHAPTER V

Migration to Mars

THE hum of magnificent generators sounded over the countryside. Their song had begun, never to cease until the moon should crash down to remold the earth. Back of the spinning turbines was half a year’s fuel supply moving to its destination automatically.

The power age had never witnessed a spectacle so colossal as this before. Within the vortex of converging tracks the giant transmitters loomed like a symmetrical mountain. Billions of glittering points bristled over its rounded surface. Somewhere in unseen depths,

the magic of matter disintegration was taking place. Through the blue aura above, channelized radio waves sped on their way.

Across fifty million miles of space another giant instrument of kindred sensitivity zoomed with a song of matter synthesis. From Oil Plains, Earth, to Buchanan, Mars—four and one-half minutes. From life to disintegration to radio waves to reintegration to life—all in a moment of oblivion! It seemed incredible—almost as incredible as the telephone once had been.

As one convincing report after another was communicated back from the newly-arrived on Mars, thousands of people rushed boldly through the ramps and into the open cars. Others hung back; some were afraid, some were fascinated by the terrific exhibition of power before their eyes, many were bewildered by the realization that at last they were leaving the Earth forever. And there were those who had no intention of leaving; the predictions of the coming catastrophe meant nothing to them, for they were victims of moon fever, a strange romantic malady induced by the spectacular splendor of the hovering moon.

The day after the first rush of stampede had stormed off to Mars, the great organized migration began in full force. Loud speakers had assured the waiting masses that the machine would handle passengers at the unbelievable speed of fifty million a day. Skeptics laughed, but eye-witnesses who had reviewed the grand facilities for loading did not doubt it.

Twelve tracks built to the stupendous gauge of two hundred feet led in from twelve angles, tangents to the vortex of tracks that spiralled about the transmitter. The odd-shaped cars were simply rolling floors with high backs. They eased along the miles of loading

docks like so many magnified park benches, moving forward so slowly that a column of passengers could march onto them through the open ends or automobiles could drive on.

The loaded cars moved independently. As they converged from all directions at the spiralled vortex, they sped up—faster—faster. The roller coaster effect caused constant screaming and shouting of passengers at the point where the cars raced down the incline.

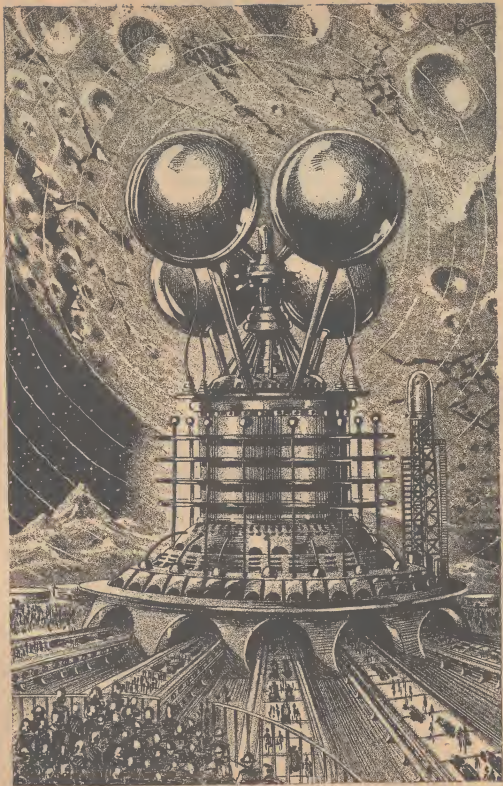
One car every second was caught up like a mammoth lug to ride over the gigantic drum that hummed with high speed. One car every second flew through the detection area of the transmitter, then coasted forth on its return journey—empty.

The reverse of this process was taking place simultaneously fifty million miles away. Under artificially controlled gravitational and atmospheric conditions the cars rolled forth loaded down with amazed and terrified migrants. On they came by the thousands; dazed, scared, mystified; some screaming and fainting, but none injured.

The engineers of two planets thrilled to their triumph, thanked their luck that they had lived in the age of this wonderful invention, planned and schemed for its future possibilities. The visionary Buchanan raved like a drunken prince. Victory! The race against time was won!

STRANGELY, the one person whose genius had done most to drive the construction of the giant radio was not gloating with his fellows. He was donning coat and hat, counting the minutes it would take him to drive to Interplanetary Headquarters.

These past weeks of slave-driving labor had been unbroken by any word from Vivian. His friends on Mars had failed to get any trace of her. He



A constant stream of people flowed into the giant transmitter

must storm Sheebler's fortress. Only the pressure of millions of families who had pinned their faith on him had prevented his doing so before. He would not delay another minute. If that damned Sheebler had refused to let her quit her job—

He darted down the long hallway toward his car. Suddenly he heard a strange sound—a low buzz—under the hum of the generators. He stopped, dismayed, thinking of Professor Buchanan's oft-quoted phrase, "No machine is perfect."

He started on but was stopped again, this time by a call over the loud speakers.

"Lattimer wanted in department twenty-seven immediately. Emergency. Technical difficulties. Lattimer wanted immediately. Department twenty-seven."

Why couldn't he have been deaf at that moment? He swore to himself. Why did every technical difficulty demand his attention? Weren't there other engineers who could keep this machine going? He whirled about and rushed to answer the emergency. Other things would have to wait, for he was an indispensable part of this machine.

Days and nights of ceaseless supervision. Into the shadow of the deadline.

The two hundred and thirty-ninth day after Buchanan's famous declaration found the white haired professor speeding back from the Rocky Mountain Observatory toward Oil Plains. A microphone was before his lips.

"Tomorrow," he repeated over and over. "Tomorrow is the day. Come to Oil Plains and board a radio transit car at once. Tomorrow the giant radio will be destroyed. The moon will break within the next few hours. The crash will come sometime tomorrow. Tomorrow . . ."

Radio warnings shot across the con-

tinent. The camps surrounding Oil Plains during the preceding weeks were gone now. Last minute migrations from foreign lands had come and gone. Straggling parties were still dribbling in from all corners of the earth. How many thousands or millions of persons yet remained scattered over the face of the globe powerless to cope with the coming catastrophe, no one would ever know.

A few hundred people still lingered at the radio and space-ship centers—people who, like Ray Lattimer, had been kept busy up to the eleventh hour.

"All services will cease at midnight tonight," came the emergency broadcast. "No radio broadcasts after midnight tonight, no telephones, no buses or trains. If you plan to drive to Oil Plains be sure your fuel needs are taken care of at once, for no services will be available after midnight tonight. Lights may go off any time after midnight. You are advised to go to Oil Plains at once . . ."

Midnight found Ray Lattimer at the radio telegraph catching a last minute message. All of his feverish efforts to locate Vivian had been fruitless. He had been virtually tied to the giant transmitter. Several of his friends, realizing his predicament, had offered to help. They had promised, on departing for Mars, to find her at any cost. One after another had reported no success. Now a last minute message from a friend told the story:

"Have learned from space pilots that Vivian is still on earth in private employ of Sheebler."

RAY dropped the instruments, flew out of the room, sprinted for his high powered motor car. Though untouched for weeks, it was ready for instant action. Into the streets it shot—across the underground highways—up onto the surface. No use fighting the

final rush of traffic pouring in from Interplanetary. Better to take a chance on the meteorites. He would do the fifty mile surface stretch in a few minutes.

Even on this little used highway the eleventh hour traffic was active. For the first few miles he saw lights along the loading docks. Here was the outer end of one of the twelve tracks, where the chain of radio transit cars rose to the surface and began the slow drift back to the giant transmitter. How long would all these wheels keep turning without his supervision? He wondered. The engineers had all gone now. It was up to the automatic controls to carry on until the shattering blow of the moon came.

Under the light of that sullen orange sky monster, Ray could see a few trucks and cars, and here and there a person loaded down with luggage, boarding the open cars. If he could find Vivian, he would come back this way, drive onto a car, and wait. If he could find Vivian—

His heart was sick. How had this fatal thing slipped up on him? He had been so hypnotized by the swift succession of demands upon him, so fatigued from the endless rush, that he had lost touch with his own personal life. Would Vivian still be alive? Would she still be—his?

As he held the car wide open a curious sensation came to him. The moonlight over the landscape had flickered. Instinctively his eyes flashed upward to the gorgeously shaded ball that filled the whole eastern sky. Its upper edge was eclipsed by the earth. By morning it would be directly overhead, he reflected—if morning came.

Another flicker, and with a thrill of terror, for Ray's eyes caught the spread of a new fissure. Then another. Gradually a vast section ripped from the swol-

len face, shook free, and appeared to be floating outward toward the earth. Man's moments on his home planet were numbered.

Ray dodged an oncoming truck and whizzed on toward Interplanetary.

THE lights still burned at Interplanetary Headquarters. Deep in the catacombs below the hotel Sheebler had stopped dead in his tracks before the moonometer. He stood as if frozen, his eyes glassy, his lips quivering. In the deathly silence of the room the instrument was shrieking danger.

For minutes the unnerved man was paralyzed. His mad will refused to believe that the long dreaded moment was at hand. None of the emergency broadcasts of recent days had reached his ears. They angered him so, they were so demoralizing to his trade, so insulting to his own theories that he had thrown the switches.

Fighting out of his nightmare of fear, whipping his terror-stricken body into action, he dashed through the passageways that led to his treasury. A gleam returned to his eyes as he surveyed the stacks of metal boxes.

He glanced at his watch. Only a little after midnight. Good. There would be time.

He snapped a switch. A conveyor belt along the floor began to roll. He snapped it off, satisfied. It would enable him to load his treasury into a space ship in half an hour. Then he would be off. The only space ship in port was scheduled to leave at day-break. He would load it and go at once. Passengers and crew be damned. No need to tell anyone his plans; no one except the pilot. Keep a gun on him. That would be easy. Clayface had worked it for weeks.

Clayface—yes, he would come in handy too. Sheebler would put him

down here in the vault to feed these cases onto the conveyor belt. When the last box rolled into the ship's hold, Clayface would be through. He could stay on earth to greet the moon. By that time Sheebler would have a nice start for Mars with no one but the pilot and the treasure chests for company—

CHAPTER VI

The Moon Breaks Up

HIS thoughts broke. The muffled sobs of a girl's voice sounded dimly through the hollow passageway. That Carruth girl. Damned little tiger. He'd never been able to get his hands on her. There was too much space in this hotel, now that everyone was deserting. She was as elusive as a wild bird. But she hadn't escaped—he had seen to that. Maybe these weeks behind a locked door had tamed her a little.

She was in terror. Even before he had the door unlocked she was pleading with him to take her to Oil Plains. She had counted the days. She knew the Earth's doom was at hand.

She backed away from the door as her captor flung it open.

"Come out," he said. She obeyed. He directed her toward the vault. She stopped at the doorway of the treasury, saw the cases piled high, and wondered if ever in the world so much wealth had been stored in one place.

"In a few minutes I'm taking it to Mars," he said, and noticing her surprise, added "No one knows it but you. I'm telling you because you're going with me."

Instinctively she drew back. He advanced, seized her wrist. "I tell you you're going with me!" he rasped through clenched teeth. His insane glare was upon her. Terrorized, she slowly nodded her assent.

Then footsteps thudded through the hallway, and a hulky uniformed man strode into view. Clayface.

"Well?" Sheebler roared. Then, as his thoughts whirled, his manner changed. "I was just going to send for you, Clayface. I want to see you."

The guard strode up to his superior. The usual grin on his face was missing. In its place was the fright of a child.

"Have you seen the moon?" he gasped.

Sheebler eyed him fiercely. "What's the matter?"

"They sent me in to tell you we're going," he rattled, "and you can come if you want to. And you, Baby," turning to Vivian, "I came to get you. We're set to go off in five minutes—"

"You're what—?" Sheebler shrieked. "You can't take off till daybreak."

"Yeah?" smiled Clayface. "The instruments are set, and it won't be five minutes. Your workers are all aboard and they aren't carin' whether you come or not—"

"Why the damned—who told them they could leave? I'll—" He reached for his revolver.

"You won't get anywhere with that. They're loaded up and they're goin'. And so am I. Come on, Baby," he caught Vivian's hand and started.

"Wait a minute!" Sheebler commanded. "Help me get these boxes aboard. We've got to take them to Mars." He snapped on the switch and set the conveyor belt into motion as he barked orders frantically, holding a gun on the two of them.

Clayface did not move. He stood in wonderment as his surprised eyes floated over the piles of metal cases. "Gollies," he said dreamily, "is all of that money?"

Sheebler stiffened. "Get at it, I tell you!" He flourished the revolver frantically.

Clayface shook off his dazed expression. "No time for that. We're weighted down now. Come on!" Disregarding the maniacal gleam in Sheebler's eyes, Clayface tightened his grip on Vivian's hand, ready to start back down the passageway.

"Stop or you'll die in your tracks," Sheebler barked.

The uniformed man turned about carelessly as if reluctant to obey orders, grunting, "Hell, have it your own way." Starting toward the cases, he suddenly crowded his threatener onto the conveyor belt. Sheebler's feet shot out from under him. Clayface and the girl were through the door and into the maze of catacombs.

Sheebler leaped to his feet. He swung the vault door behind him; it would lock automatically. Gun in hand, he ran in the direction of the retreating footsteps.

His treasure, the ruling passion of his life, had been revealed before the eyes of two persons. They would not live to tell about it, no matter what happened to it—or to the earth, the moon, the stars, or himself.

He knew the shortcuts through these catacombs. His errand would require only a minute's time and two bullets. There would still be time to board the space ship.

RAY LATTIMER, chasing from one vacant hallway to another, at last caught the sounds of voices. He bounded through the catacombs toward the clatter of footsteps. As he cut through a dark passageway toward a lighted corridor, the concussion of a shot shook the air. A large uniformed figure slumped on the floor ahead of him.

That scream was Vivian's! Her running form passed before him.

Back of her came the mad-eyed Shee-

bler, leveling a gun at her.

Ray's hand gripped an automatic.

Crack!

Sheebler's weapon jumped out of his hand and clattered across the floor. The furious maniac leaped at Ray; he would have flown at a speeding locomotive. Ray's second shot went wild as he went down under the impact of the madman. His automatic bounded out of his hand as he struck the floor.

Vivian's scream stopped short at the realization that this was Ray. Where he had come from, how he had known of her peril she had no time to question. Her eyes fell on the nearest revolver. She started for it, stepping over the dying uniformed creature that blocked the narrow corridor.

She could not get through. The two fighting demons rolled and bounced back and forth between the walls in terrific combat.

Then suddenly the rain of blows ceased. Ray stood half crouched, breathing heavily, his bleeding knuckles at his mouth. The glassy eyed Sheebler lay on his back, his hands cupped upward.

Ray picked up both weapons.

The trembling girl clutched him half in fear, half in joy. Ray kissed her eyes, now flooding with tears—her lips, now smiling. She clung to him.

Sheebler breathed huskily. His swollen eyes narrowed; his murderous face was tense. Ray studied him sharply. The prone man made no effort to move, but Ray's hand tightened on a revolver.

"You've come to an end," he said.

Vivian restrained him. "It isn't necessary. After the millions of lives you've saved, Ray—"

"I can afford to lose this one. After all—"

"If you're thinking of Lane—"

"I'm thinking of you."

"I haven't been harmed, Ray. I'm

just a little frightened. But if you hadn't come when you did—"

A heavy explosive sound resounded through the catacombs.

"The last space ship—taking off," Vivian breathed. "Is—is there still time to get to Oil Plains?"

A minute later they were rolling up out of the subway in Ray's powerful car.

"We'll be among the last to leave," he said grimly. "The professor and all the force have gone. It's high time we got aboard."

AS they came out into the open Vivian gave a shocked cry. She had caught first sight of the falling moon. Holding the car wide open on the empty highway, Ray turned for a quick glimpse. His foot went harder against the accelerator. The spectacle was unnerving. A vast section of yellow moon with deep black edges was coasting down out of the skies. Smaller fragments around it were also floating earthward. A second and a third glance gave proof that the flying bodies were enlarging visibly as they plummeted toward earth.

Vivian was breathless. "Will the transmitter still be working?"

"We'll soon know," Ray answered through set teeth. "The radio waves won't be disturbed—but there's no telling how soon earthquakes may be tearing up everything. This old globe will probably start ripping and thrashing over the surface before that chunk of moon ever strikes. When that happens, the giant transmitter will quit cold."

Ray took a curve at a dangerous speed, and Vivian saw a long loading platform stretching ahead of them. The endless row of open cars was moving gently.

"Deserted," said Ray. "Everybody's gone."

"There's another automobile following us. I see its lights," said Vivian, looking through the rear window. Her heart beat wildly as she added, "Do you think it might be Sheebler?"

Ray didn't answer. Inwardly he cursed himself for letting a bullet go to waste. There would be difficulties enough on Mars without Sheebler. Better that the moon strike this instant—

Ray slowed down almost to a stop, turned shortly, coasted a few feet, then cut off the engine. They were aboard a slowly rolling transit car. Their fate rested in the hands of time.

The great fragment of moon seemed almost upon them now. The earth's shadow spread blackness across the upper side of it. Then at once the hues began to turn. The outer edges changed from black shadows into a dull red glow—brighter and brighter. The whole magnificent body was inflamed with a brilliant red that glowed over the landscape.

As it scorched through the earth's atmosphere it grew more scintillating—a blinding white. The approaching car lights paled. Warmth was pouring down. There could be only a few seconds left now.

The rolling floor bearing the motor car, within which the terrified couple huddled, accelerated into lightning speed and flew as if through space. Objects that Ray had helped to create swept past so swiftly that the kaleidoscopic scene meant nothing.

Then there was a sudden retarding. "We're stopping. Something's gone wrong. We're sunk!"

Slower—slower—they were easing along through a great enclosure now. Nothing of this scene was familiar to Ray—nothing except the bystander who hailed them as they rolled by. It was Professor Buchanan.

(Concluded on page 140)

RIDDLES OF SCIENCE

The Mystery of Exploding Stars



OF THE PRESENT TIME NOVAE ARE THE OBJECTS OF INTENSE STUDY BY ASTRONOMERS, WHO CONSIDER THEM ONE OF THE MOST SIGNIFICANT MYSTERY-PHENOMENA OF THE UNIVERSE.

FROM SOME MYSTERIOUS CAUSE, STARS SUDDENLY BECOME VERY BRILLIANT, AND INCREASE MANY TIMES IN MAGNITUDE, FOR JUST A FEW DAYS, THEN DIE AWAY AGAIN. SCIENCE IS INTENSELY INTERESTED IN WHY THIS HAPPENS.



THE BRILLIANT MYSTERY STAR THAT LED THE MAGI TO THE CHRIST-CHILD MAY HAVE BEEN A NOVA.



ASTRONOMERS ARE INTERESTED IN NOVA BECAUSE WHAT CAN HAPPEN TO ONE STAR CAN HAPPEN TO ANOTHER. OUR OWN SUN IS A STAR. IT MIGHT EASILY BECOME A NOVA AND DESTROY ITS CHILDREN, THE PLANETS.

ASTRONOMERS during recent years have been searching the heavens for novae, charting and making observations on each one detected, in an effort to solve the mystery of their appearance, and the cause that lies back of this mysterious brightening or exploding of stars. Their reasons are not merely curiosity, but a conviction that herein may lie the answer to the problem of atomic power, the nature of matter, and of energy. Amateur astronomers have been enlisted in this important research.

FACE



The tiny rocket hurtled upward with a swoosh of air, directly at the Face



in the SKY By

THORNTON AYRE

There couldn't be a Face in the sky. Not a living one. But when it spoke, an awe-stricken world rushed to obey its command

CHAPTER I Nebula 76K

THE YEAR 1990! And a world bristling with preparedness armament awaited the last war.

But then the unexpected happened.

It was formless at first. It resembled an electrical storm far away in the region of the Pole Star. Yet in some way it differed from an electrical haze; it was more after the style of a nebula, an oval patch of mist appearing as large as the sun. And, most amazing thing, it was within the boundaries of the Solar System. A nebula *inside* the solar system . . . ?

Unquestionably it demanded the attention of the scientists. It certainly sharpened the curiosity of Stuart Bates, the thirty-five-year-old assistant astronomer of the New York Observatory. That he was just an assistant rankled strongly with Stu; he knew that the impatient chief, Boyd Granville, had only become the ruler of the observatory through influence and not through knowledge. What the Sam Hill did he know about science anyway? Didn't he always rely on the younger man for data?

Certainly the husky, blond headed

Stu was well able to take care of the responsibility. He had his pet ideas, too. He believed he might one day communicate by radio to other worlds. Jane Carter, the young television actress, was with him in that. They'd got engaged on the strength of it. When time permitted they worked towards that common and of bridging the interstellar gap. Without doubt, the flaxen haired Jane knew all the scientific answers, even if she was an actress of world renown.

When Stu came to study the reflector's photographic findings of the nebula, he did not quite know what to think; neither did the Chief. It was peculiar indeed, but that mist—through the telescope—looked devilishly like a malignant face! The eyes were there, the nose, the mouth and jaw, capped by a lofty forehead; but as yet the phenomenon was so distant the details were none too accurate.

Of course it could only be chance that the nebula looked that way. Just the same, the Chief advised suppression of the real facts in case the susceptible public got the idea wrong. So the unknown nebula became Nebula 76K in the records of the observatory and the

Chief promptly dismissed the idea from his mind.

Stu was rather loath to drop the investigation, but force of circumstances compelled him to do so. He was suddenly ordered by other observatories to make all observations of Pluto and check the current astronomical report that the little ninth planet had developed a gouge on its surface representing a penetration to perhaps 30 miles inside its mass. Stu checked the observation easily enough. The giant reflector revealed that the far-flung little world had a V-shaped notch in its side. The reason was fairly obvious. Some dark, wandering meteor of the void had struck the planet a terrific blow and torn a massive chunk out of it.

Stu logged the matter in the routine way, made his own private notes about it—as he always did when anything unusual happened—and passed on the desired verification to other observatories.

Then he resumed his studies of Nebula 76K. In two nights it had become considerably bigger and the details were much clearer. The resemblance to a face was more startling than ever. Staring into the mirror with keen blue eyes Stu fancied he could make out slumberous optics hidden by a doming forehead. Somehow, though he was by no means a nervous individual, the contemplation frightened him a little. There was something eerie about that immovable visage floating out there among the northern stars.

He was in something of a quandary too. The Chief had said the matter was finished with: for that reason he dare not bring up the problem again. The Chief was touchy that way. But on the other hand. Stu scratched his thick blond hair and finally gave up the riddle, went on with routine work and wondered how much of the face

was actual and how much due to his fertile imagination.

IN this short space of a week the face grew to proportions easily discernable to the naked eye. Night after night, when the weather permitted, it became visible in the north—large enough now to encompass Ursa Major on the one side and Cassiopeia on the other. The Pole Star itself had been obliterated.

Scientists began to get jittery. The public was more than jittery; it was definitely frightened. The vision of that distant, immovable face like a watching god, brooding over city and country alike, was unnerving. Stronger minded ones managed to laugh at it, but even they were inwardly alarmed. No one could look at the Face and remain unmoved.

Stu had no theories to offer. Even if he had he knew better than mention them. Theories were only for the Chief. And very antiquated ones they were as a rule.

"Just the same," Stu said thoughtfully, when he and Jane found the time for one of their rare get-togethers, "it is queer. Darned queer!"

"Take a look at it from here!"

The girl, five foot two of slender, blonde loveliness, was standing by the window of this little experimental hut in the Adirondacks she and Stu had bought. The solitary window looked due north—and there in the winter sky hung that grey white face, coldly inimical.

"Any ideas about it?" the girl asked, as Stu joined her. She turned her pretty, softly moulded face towards him. Its beauty was definitely enhanced by the yellow scarf she wore tucked in the neck of her blouse.

"No ideas at all," Stu grunted moodily. "Anyway, it can't be a real face."

"Why not?"

"Why, because— Because it's beyond all reason! Anyway, we didn't come here to look at that; we've radio work to do."

He turned aside and sat down amid the jumble of radio equipment filling the center of the little room. The girl joined him, her deep gray eyes pensive.

"The more we work on this darned thing the more I think that communication between worlds is impossible," Stu growled. "We've tried every conceivable system and arrangement, and what do we get? Nothing!"

"Granting the waves reach a planet what guarantee have we that they understand them, that they even have instruments?" the girl asked quietly. "I don't know whether you've ever read Felminoff's theory of life on other worlds, but he says radio is the last method to use. Vibrations would be a better scheme—or even signs of some sort. I've a feeling we're on the wrong tack, and I've said so for long enough. Only you won't listen!"

Stu glanced up with a faint smile. "I guess it isn't much use listening, Jane, when I can't follow the advice. I've no means of producing vibrations over millions of miles, so radio is the only alternative."

"I don't know that you haven't. In that radio apparatus you've got the basis of remote control anyway. You could control anything for a hundred miles and more; extending the vibratory influence is only a matter of study."

"Oh, to hell with it. Felminoff's not always right anyway. I think you pay too much attention to him."

The girl shrugged her dainty shoulders and sat down beside him. She had used up all the ideas in radio she knew in an endeavor to produce the right one

for interplanetary communication, but without avail. Even with Stu's trained knowledge added to them nothing had emerged beyond remote control, and that definitely was not much use.

"Anyway," Stu grunted at last, "there may be something in the idea at that. Might make a basis for space travel. I've made a model rocket that would carry any man over the gulf if he had the security of radio control right behind him."

He glanced towards the bench where a tubular object with small firing cylinders lay discarded.

"Radio communication is so much easier," he sighed, and for a moment or two sat surveying the mass of apparatus. Then with a grunt of impatience he switched over the power of the mountain stream-driven generator to a powerful receiver, sat back and listened.

THE cracklings of static from the electrically ridden air burst from the speaker. Amongst the din, half formed, was the jumble of stations, belated news from overseas, ships' signals, a dance band, all blurred with the obliterating stream of atmospheric.

Jane sat wincing; Stu frowned heavily—until both of them began to notice that there ran through the jumble a thin thread of speech, extremely faint, extremely deep, that took several seconds to impress itself on the pair.

Jane started forward suddenly, her face amazed. Stu sat up too from his lounging position. For a split second or two the voice was clear.

"People of Earth, you must prepare to obey my wishes! I am watching you. . . ."

The voice, faint though it was, was a deep inhuman bass, filled with a rich quality denied to any human throat.

"What the hell—!" Stu exclaimed blankly, as the words were repeated once more in that sepulchral profundo. Then they stopped suddenly. . . .

"Who—who's saying that?" Jane stammered at last, startled.

"I dunno. Stopped now all right."

Stu was right—but in that brief period of voice he had noticed something. The detector on his apparatus, pointing to the source of the communication, had stopped with its needle erect. Pointing upwards, to the north. To the face!

He gave a quick glance at the girl. She had seen the indicator too. She shuddered now over the cacophony of resumed stations.

"The—the Face? Did the Face say *that*?"

Stu switched off. The silence seemed suddenly intense.

"Couldn't have been," he muttered, giving a short laugh. "It's too absurd! Somebody playing a joke."

"The indicator wasn't, though, and it points north and up!"

Jane got to her feet, clearly uneasy. She moved over to the window and stared northward. The Face was still there, unmoving. Abruptly she spun round.

"Stu, let's get back to the city," she said quietly. "I'm getting nervous—honest I am! I don't like sitting up here hearing things like that. If it was a joke we'll soon know. Oh come on, please!"

Stu shrugged, imagined he looked calm. Inwardly he was far more worried than he cared to admit. O.K. for a girl to be a bit jittery of course, but not for him. He picked up her heavy coat and held it for her.

"Let's go," he said simply. "Maybe we both heard things."

the following morning when the papers carried headlines about the mystery call. Not that the matter was the isolated concern of America. The entire western hemisphere had heard that faint bass, had wondered what it implied, who was responsible.

It required no effort of genius for the reporters of various countries to link up the voice with the face in the sky which had been coming visibly nearer night by night. A wave of panic swept the more nervous of people. An inhuman bass voice from a place unknown and a face in the sky had all the ingredients necessary for a first class sensation.

As usual, when in a jam beyond their understanding, the people turned to science for opinion. The New York Observatory, among others, came in for plenty of questioning. Not that they could explain much anyway. They published prints of the face as seen through the telescopes, and observed that it was most likely a nebula that looked like a face. The voice they could not explain, and that was why they sounded unconvincing.

Radio engineers were equally baffled by the voice, but they had resolved, they stated, to get their detectors to work if the voice was repeated and find out exactly where it came from. They knew it came from overhead to the north—but that might mean anything. Trouble was that the atmosphere was so upset it made detection difficult.

For a week the voice was not heard again and humanity breathed a trifle more freely under the belief that it had been a clever hoax. Stu, busy every night at the Observatory, was not so sure. In fact, the idea of the voice coming from the face was one that rather appealed his fantastic imagination.

And beyond doubt the Face was still

THAT neither of them had been mistaken about the voice was revealed

approaching. In every part of the western world men and women were watching it. In the week of the voice's silence it had certainly become larger, occupying a quarter of the sky and blotting out the stars behind it. The nose and mouth, hard and firm, were distinguishable. So were the deep set, unblinking eyes and lofty forehead. It was as though Colossus brooded over the affairs of men. It was frightening—horribly so.

The more Stu studied the visage through the telescope, always accompanied now in this period of emergency by the Chief, the more he wondered about a theory forming in his mind. Certainly he dare not publish it: its fantasy was opposed to the cold ethics of his profession.

But at least there was no harm in trying it out on Jane. He waited until she had a free night, then reeled it off to her in the cosy warmth of her uptown apartment.

"Suppose," he said slowly, "it's the face of an extra-universal being?"

The girl lay back on the divan, pondering, the light catching the exquisite silver ripple of her hair.

"You mean that our solar system is an atom in a macro-universe and that somebody in that macro-universe is watching us?"

"Just that. The voice said he was watching us, didn't he?"

"Yes, that's true, but— It can't be right, Stu, because a Face couldn't stay immobile so long. I mean it would surely move a little? Think of the time it's had the same expression!"

"That's just it!" he cried. "It strengthens my idea. Don't you see, the time relationship is different? A mere glance from that being might last a year or a century to us. I'm sure I've got something," he went on keenly. "The Face is getting nearer too. That,

as I see it, means that our solar system as an atom in a macro-universe, is moving nearer to the position of the Face."

"But," Jane said seriously, "if the time relationship is so different how do you account for the voice being audible? That doesn't take a year or a century to make itself understood. And anyway, how does a voice reach into our little world from a vast supra-universe?"

STU frowned. That lay as a sudden barrier in the path.

"Damned if I can figure that bit," he confessed, shrugging. "It involves sound and vibration mechanics beyond my knowledge. But it's possible a master scientist might make himself audible. Either it is the voice of the Face itself and we cannot see the movement of his lips as he speaks—or else it is a separate voice transmitted to us by methods too complicated for us to understand."

"Hmmm . . ." Jane said, by no means satisfied. She got to her feet and poured out drinks. She seemed about to say something as she handed Stu his glass, then both of them glanced toward the softly playing radio in the corner as the program was cut off to give place to the emergency announcer's voice.

"Attention everybody! We are asked by the Medical Board to issue the following bulletin—An outbreak of severe erysipelas has suddenly appeared in western coastal towns of the Americas, and in several inland towns as well. The disease is highly contagious and in an effort to prevent it spreading until the medical faculty have determined the cause, you are each one asked to refrain from visiting or contacting anybody known to have this ailment. Emergency measures and isolationary procedure will be taken later.

"That is all."

"How—how horrible!" Jane whispered, shuddering. "Wonder what started it? Sounds like something out of the middle ages. I hope to Heaven it keeps away from here. My theatrical work is finished if anything marks my skin."

She turned, surprised, as Stu remained silent. He was sitting staring in front of him, glass unheeded in his hand.

"Anything wrong?" Jane asked briefly.

"Eh? Oh, no! Sorry!" He sat up and finished his drink. "Just something caught my fancy. This erysipelas has given me a new line."

"Doesn't take much to start your imagination working, does it?" the girl smiled.

He grinned back at her. "Men with imagination can rule the world," he observed; then he looked at his watch. "But I can't stop here any longer otherwise I'll miss my sleep. Hard going at the observatory these days; I've nearly forgotten what a bed looks like. Guess we'll have nother shot at the radio in the Adirondacks when all this has been cleared up, eh?"

"Of course!" She rose too as he got to his feet. He held her for a moment.

"Not frightened any more?" he murmured.

She grimaced. "No time to be! I've two pictures on schedule at the studio and that's keeping me plenty busy. When you get some more spare time let me know. I'll try and fix it."

"Right! And try not to worry."

He kissed her gently, left in a thoughtful frame of mind with strange half formed ideas buzzing round his brain. Outbreak of erysipelas? Face in the sky? Voice? The scientific training he had had somehow insisted that there was a clue in all this, but

what it was still escaped him.

CHAPTER II

Epidemic

LIKE an all consuming tide the erysipelas epidemic swept down on the world, not limiting itself to the western hemisphere but attacking other parts of earth as well, including Russia, India, and many parts in Europe. In fact it seemed that nowhere was immune from it—except perhaps in the far north of the earth, where it was presumed the cold prevented the disease getting a hold.

On the day following the news bulletin warning, the effects of the unexpected scourge were more than evident on the faces of New Yorkers. Men and women appeared at their places of business with ugly burning patches and scars upon their hands and faces, and on other parts of their bodies hidden by clothing. Isolation was all very well, but work had to go on when one's living depended on it, and since the victims experienced no actual feeling of illness they went about their work as usual.

From a feeling of uneasiness and alarm, the emotions of the American, British and European people changed to real terror, particularly as the Face in the sky loomed nearer. And on the very night following the outbreak of erysipelas there came another message in that profound bass voice. This time everybody with a radio set heard it. Stu heard it in the observatory as he checked over recent photographs of the Face with the technical staff and the Chief.

In dead silence the little group listened.

"People of Earth, listen! I am watching you. As the representative of my

people I am observing everything you do. For centuries now—to you that is—you have been sunken in bestiality, have spent your time devising new means to destroy each other. Do not attempt to understand me, for that is impossible. I have science and knowledge beyond your imagining. I am in a world far beyond yours, a world where—in your entire universe is but a molecule. Some of our powers you have already felt.

"You are being attacked by powerful cosmic rays which burn and blister your skin. The attack will continue until you have all decided to observe the true standards of civilization. You have a world groaning under the weight of engines of war. One by one you will destroy those deadly armaments, rid yourselves forever of the threat and scourge of war.

"If you do not, you will be destroyed by us—by cosmic rays—as beings unfit to populate a fair planet. Destroy them—or be destroyed! I shall continue to watch you, and until you learn sense the cosmic ray attack will continue without pause. You have been warned!"

The voice stopped dead, its deep thunderous tones rolling through the reaches of the Observatory. For a space the staff stood in motionless amazement, then Chief Granville, ox-like and empurpled of face, whirled round to the telephone and snatched up the receiver.

"Hallo there!" His booming voice was acid with impatience. "Get me radio control headquarters quickly!"

The others stood waiting and listened to his sharp comments.

"You couldn't? No exact detail? Above? Huh! What the hell's the use of a radio control center if you can't do something? Eh? I don't want excuses! I want action!"

He slammed down the receiver and came forward slowly, his bulgy blue eyes glaring in anger.

"Some station!" he snapped. "They can't determine where the voice actually came from. They know it's from above, but exactly whereabouts above is open to doubt. A good deal of confusing static to." He pondered, scratched his half bald head. "Loath though I am to admit it, it looks very likely that this face is the genuine article. After all, an extra-universal being, watching us, would look like that."

HE glared round for approval. Stu smiled bitterly. Just like the Chief to be told exactly what the phenomenon was, by the phenomenon, and then produce it as his own idea.

"See something funny in the idea, Bates?" the great man barked.

Stu gave the slightest of starts.

"Not exactly, sir. I was just recalling the fact that I had the same theory of an extra-universal being some days ago. Only I said nothing about it—"

"Said nothing about it!" Granville echoed sourly. "If you'd had any idea so mighty as that nothing would have kept you quiet! And let me tell you, Bates, I don't like my own theories taken out of my mouth so promptly. Remember, you are not chief astronomer!"

"I'm hardly permitted to forget it," Stu retorted.

The staff grinned as they looked on. The Chief's eyes narrowed. He stood with his feet apart.

"What other *original* ideas did you have?" he asked dryly.

"That was the only one. If you don't believe I thought of it you can ask Miss Jane Carter, the television actress. She's my fiancée, and I told her all about it—"

"Oh, you did!" Granville exploded. "Then let me tell you something, Bates! Whatever your theories may be—and this one I do not believe in any case—it is your duty to state them first to the observatory board, to *me*—not to outsiders! Suppose you happened on something of world import? I suppose you'd tell it to this actress associate of yours first?"

Stu slammed down the wad of prints he was holding. He kept his voice level with difficulty.

"O.K., I'm through!" he blazed. "You and I never did hit it off, Mr. Granville, and now seems as good a time as any to call it quits. I've got other ideas further to the supra-universal being idea, but I'll be damned if I'll pass them on to you! Keep your blasted observatory and all that goes with it. That goes for you as its chief, too. Science! You don't know the first thing about it!"

"Collect your salary in lieu of notice from the cashier and get out," Granville breathed. "Maybe you'll learn in time not to steal other people's theories."

Stu swung round to the doorway, slammed the portal viciously in place and strode to the cashier's department. With his month's salary in his breast pocket he scrambled into hat and coat and emerged into the street.

It only began to percolate upon him as he walked along that he was really fired—fired by an ignoramus, when he, Stu, was the rightful heir to the title of Chief Astronomer. Pity kindly Professor Walters, Head Director of the Observatory Board, had been swayed by influence to institute Granville.

"Oh, hell!" Stu growled. "What's it matter anyway? Just let him try and solve scientific mysteries from now on! Will he get tied up! And anyway I *have* a new angle. Maybe I'm better

free, to work it out."

HE debated as he walked along, finally took a chance. Instead of going to his own apartment he headed for Jane Carter's place. To his delighted surprise the girl herself opened the door, gave him a smile of welcome.

"Well, Stu, you're lucky to catch me in; only been home a few minutes. What's on your mind? We're quite alone if it's anything important. Maid's night out, you know."

"I'm fired," Stu said, leading the way into the drawing room. "That idiot Granville got the same idea as me about an extra-universal being—once he'd heard that radio voice tonight. I told him I got the same idea days ago. Result—fired! Seems to think I was copying him. Not that I mind, of course."

"Maybe you were not very tactful," Jane murmured.

"Well, maybe not. Anyway, I've got more theories. I suppose you heard the voice on the radio tonight?"

"Oh, yes—but I doubt if anybody will listen to a plea for world disarmament. Presidents, dictators, and kings love those steel protections a good deal even if the people don't. I'll wager that rulers will think the thing a joke."

"The erysipelas plague isn't a joke."

"True. Just what are you getting at, Stu?"

"I'd like to fully convince myself that this erysipelas *is* produced by cosmic rays," he said thoughtfully. "That's part of my new theory. I can't quite see how cosmic rays could so suddenly increase to such power as to cause burns. The only way to check up is to travel up into the stratosphere—and that's where you come in. You've a private high level plane."

The girl smiled. "Up on the roof right now. I came home from the

studio in it as a matter of fact. It's all yours."

"You're game to come up into the stratosphere with me?"

"Why not? It's safe enough."

"Swell! Give me fifteen minutes while I dash home for a few pocket instruments. I'll join you on the roof."

WITHIN the time he had specified Stu returned, found the girl already seated in her neat, costly little stratosphere bus on the roof top parking space. She handed him a helmet and fur lined jacket, then he dropped in beside her and closed the airtight doors.

The girl gave the power to the engines. Without a sound the plane lifted into the night, swept upward through the busy traffic High Levels and into the darkness of the little frequented heights.

Stu glanced back once or twice toward the receding bowl of spotted light that was New York, then he turned to look at the altimeter. They were up 7 miles and still climbing rapidly. The exterior thermometer registered -60° F. Presently the girl closed the switches that allowed gas valves to operate and so inflate the emergency balloons on top of the machine, turning it into a gondola. It sailed up swiftly over the top of the troposphere layer into the stratosphere.

"I guess that thirty miles up, the top of the ozone layer, will be as much as we can manage," the girl said at last. "That do?"

"I think so." Stu was already at work with his small but accurate pocket instruments, working by the light of the illumined dashboard. Finally he shifted his position towards the window trap. Since most of the ship was solidly sheathed in radiation-proof linings, and the windows too were specially de-

vised to stop deadly free-space emanations, the test trap was the only useful position. Taking care to keep his hands sheltered he went to work.

Jane glanced at him once or twice as the machine reached the limit of its atmospheric rise. She saw him glance out of the window toward that brilliant, inhuman face, more clearly visible than it had ever been before.

"Say, that's queer!" he ejaculated finally. "My instruments show that the increase in cosmic rays, for this height, is about fourteen percent. That isn't enough to cause burns down on the earth, especially after traveling through the thick lower layers of air."

"Fourteen percent increase!" Jane echoed. "But—but *why*?"

"There's only one explanation," he answered slowly, thinking. "For some reason the Heaviseide Layer is thinner than it used to be. It also proves that the voice is *wrong* because fourteen percent cosmic wave increase could not burn a piece of paper, let alone flesh! Cosmic rays, then, are not the cause of erysipelas. It either means that the force of rays has been cut down, or else the voice told lies."

There was silence for a moment.

"Jane, I've a lot of thinking to do," Stu said pensively. "I think I've gotten onto something at last. Let's get back to earth."

She nodded silently and turned back to the controls, sent the machine slowly down from the heights.

BACK on the roof of the apartment block Stu stood for a while thinking, hand resting on the plane's body-work.

"Just what are you driving at, Stu?" the girl asked at last. "Are you trying to prove the face in the sky is a phony?"

"Just that," he assented quietly, straightening up. "I had a theory

about an extra-universal being before; now that's all washed up. But I'm not sure just what I *am* driving at."

"Well," the girl smiled, "you can always contact me by phone and I'll be ready to listen."

"Of course."

He went down with her to her apartment, left her shortly afterward. He pondered as he walked home through the busy streets; he was still at it when he entered his apartment and stood slowly taking off his gloves. Then he stopped, eyeing the right glove sharply in the bright light.

"What the . . ." he started to mutter. That glove was coated on the palm with a fine grayish blue dust.

For several seconds he stood puzzling, then he recalled how he had unconsciously placed his hand on the bodywork of Jane's plane. He turned swiftly, snatched the glove up, and headed for the little room that did serve as an experimental laboratory.

His analysis did not take long.

"Barium platino-cyanide!" he whistled, his eyes gleaming. "The plane must have been covered in it. Boy! Is that something!"

IT was on the following day that the erysipelas plague took a turn for the worse. Several people, it was reported, had died from the ravages. Whatever it was causing the trouble—and most people believed the Face and cosmic rays were back of it—the sores produced on humanity became deeper and deeper, destroying vital nerve centers, arresting hearts' action, creating a toll of death in all directions.

Real worry dropped like a blanket over the world. People were afraid to venture outside, but still there were those who realized that it made no difference whether they were outside or in. So they went about their business with

vague pretensions to normalcy. But it was plainly evident that business had slowed up, that the pitch of life was altered. Terror was driving its roots deep into the western hemisphere, and to a less extent into the east. The Easterners were more stoic, even though they suffered as badly as anybody else. Only in the far north was there freedom, and hither there traveled vast armies of people.

Hundreds dying, a Face in the sky, and the solution was—voluntary disarmament. The Face had said so.

At the New York Observatory the egotistical Granville found himself hard pressed for explanations he could not give. Professor Walters, Head Director of the Board, was getting annoyed—seeing Granville for the irate buffoon he really was. He demanded that Stu Bates be found and brought back. But Stu wasn't coming back. At least not then. He had too many ideas of his own to work out.

He was convinced by now that he was on the track of the hottest scientific mystery of his generation. He went to work in his own individual way, piecing together bits and pieces of the problem as he had encountered them. He felt very much like a detective.

He also went to the length of buying several lengths of lead sheeting which he fashioned into a rough shield inside his little laboratory. So far he had escaped erysipelas; now he remained thoroughly convinced he was immune.

He began a study of his private notebook, in which through the years he had logged down all interesting events at the observatory. On this occasion it was the V-shaped wedge made on Pluto by a meteorite that held his interest. Time and again he read the notes he had written down, then he waded through a thick, clumsy volume on "Contemporary Astronomics."

"It's possible," he breathed at last, shutting the book with a bang; "but first I've got to make absolutely certain. Wonder if Jane is at home or the studio? Try home first."

He turned to the telephone, dialed Jane's apartment. The maid's voice came over the wire.

"Oh, hallo Maisie! This is Stu Bates. Miss Carter there?"

"Yes, sir, but— She can't answer the phone, Mr. Bates. She's ill—has been these last two days. The Plague's struck her."

"What!" Stu stared before him in stunned horror for a moment. "Why wasn't I told?" he demanded savagely. "Dammit, girl, I've got a telephone!"

"I rang again and again, sir, but there was no answer."

Stu gave an inward groan. He remembered now. Professor Walters had rung up twice to plead with him to return to the Observatory. When the telephone had kept on ringing he'd ignored it; clearly, it had been Maisie.

"You can't come here, you know," the maid's voice resumed. "It is against the law to contact a—"

"To hell with the law!" Stu retorted. "I'm coming!"

He slammed down the receiver and whirled into his hat and coat. For the moment everything else was forgotten. In fifteen minutes he arrived at the apartment. The quiet, trim Maisie eyed him anxiously.

"I would have come and told you, sir, only the law forbids me to leave a sick house, and—"

"Damn the law!" Stu bellowed. "Where's Jane?"

HE was shown into the girl's room. She lay in bed, her silvery flaxen hair draped on the white pillow. Her bare arms were covered in bandages, her white face labeled with plasters that

barely hid the hideous scars beneath.

"Hallo . . . Stu," she whispered in a faint voice. "Thank God you came. I—I couldn't let you know. I guess I'm in a pretty sorry mess!"

"What's the doctor say?" Stu demanded, breathing hard.

"What can he say? You know what this disease does. It just takes its course. I think I contracted it at the studio—"

"I can stop it!" Stu broke in tensely. "You need lead shields, like I've got. I'll make one for you! A little box and . . ."

Her bandaged hand reached out towards him slowly.

"I'm—I'm afraid it's too late for that, now," she muttered, her lips dry and flaky. "The doctor said it was only a question of hours before . . . before my heart is attacked. That—that means . . ."

"But this is idiotic!" Stu screamed. "I can't stand around and let you tell me you're going to die. God in Heaven, no!" He glared round savagely. "Where is that hell-fired doctor anyway? What's he mean leaving you alone like this with only a maid?"

"Maybe you've forgotten, Stu, that mine isn't an individual case. Nobody can have proper full-time attention these days."

Jane stopped, biting her lip at some inner anguish. Tears came into her eyes. Stu waited in silent mental torture until her paroxysm had passed. She spoke again, weak voiced.

"What—what made you ring up at last? Did you *guess*?"

He waved an impatient hand. "No—no, nothing like that. I wanted to borrow your plane again, as a matter of fact. I've a new slant and need a daylight test of the stratosphere."

"It's—it's parked on the roof. Take it, Stu—leave me alone for a bit.

Please. Maisie will look after me."

"Why doesn't somebody else come and help you?" Stu demanded desperately. "Your father for instance? He's only in Chicago. Where can I find him? What's he look like? I'll go get him—"

"He died yesterday," Jane said quietly.

Stu scratched his head, trying to collect his wits.

"Please make your experiment," the girl insisted. "I'll be all right until you get back. If you've any ideas at all please follow them through. All humanity might be saved. Even *I* might be saved."

That decided him. "O.K.!" he snapped, and swept past the somber Maisie in the doorway. From the corridor he headed to the roof top. It did not take above a moment or two to single out the girl's parked plane. He

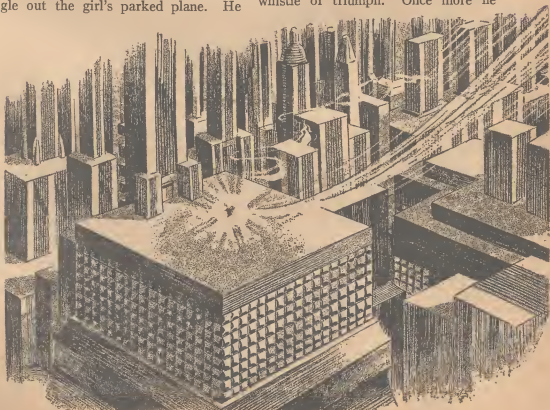
scrambled in, set forth his little array of instruments, then slammed the door. The engine roared.

Set faced, he drove with dizzying speed into the morning sky.

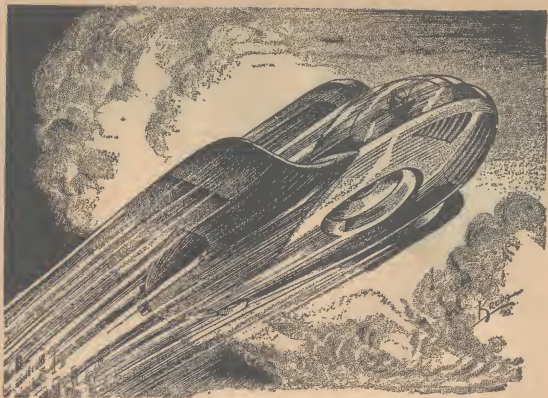
Nor did he stop at the level of the previous night. He went up beyond the top of the ozone layer, aided by the maximum lifting power of the balloon buoys. At a height of 50 miles he stopped, staring at the black sky with its powdering of stars, then he donned dark glasses and studied the glaring, spotted sun.

The Face now was not visible, being on the other side of the world. Not that that interested him now. At length he went to work with his instruments before the window trap.

HE stood watching the movement of a testing needle, gave a deep whistle of triumph. Once more he



Stu drove with dizzying speed into the morning sky



glanced at the black sky. The Heavyside Layer *was* thinner; by daylight the fact was obvious. The coloration of the infinite was darker than should normally have been the case. Instead of gray-black, the usual shade for this height, it had a darkness nearly approaching the incomprehensible black of outer space.

Stu smiled grimly to himself as he packed up his instruments. Then he sat at the controls again and returned to the rooftop parking ground.

Without a second's hesitation he raced into the building and down to Jane's apartment. He was surprised when the door opened to reveal a grave-faced man with pince-nez.

"Oh—er—" Stu was momentarily at a loss for words.

"I'm Doctor Madison," the man volunteered, in a quiet voice. "I take it you are Mr. Bates?"

"Yes, but—"

"So the maid told me." The medico glanced back at the maid in the room as she sat on the divan with a handkerchief to her face. "I'm sorry, young man," he went on seriously, "but—well, I was summoned ten minutes ago. I arrived too late."

Stu felt himself go white. He caught at the doorpost.

"You don't mean that—that Jane—?"

Dr. Madison nodded slowly.

Stu spoke mechanically. "Can—can I see her?"

"You may look from the door, certainly, but the law forbids contact with anyone suffering from the plague, be they alive or dead. Actually, you had no right to come into contact with Miss Carter before, but we'll waive that."

Stu walked to the bedroom door in a daze, stood looking at the still figure in the bed, the sheet drawn up over her

face. For several seconds he remained motionless, biting his lip. The only sounds in the world were the deep breathing of the doctor and Maisie's muffled weeping.

He turned at last, stupidly. "I'll—I'll have to arrange the funeral details," he muttered. "Her father's dead and—I was her fiance."

"I understand that the television studios have arranged the funeral," Madison said quietly. "She was a famous star, you know."

"Yeah—yeah of course. O.K., thanks. I'll—have to think it out."

Stu dried up completely. He turned away and went down the corridor, lost to the world. Suddenly, on the very verge of what he knew was the solution to the Face in the sky, his life had fallen in pieces. He was stunned, bereft of the power to think.

CHAPTER III

Disarm—Or Die!

STU could not think properly for nearly a week afterwards. He attended the immense funeral accorded the girl, saw her coffin lowered into the earth. More than that he could not stand. He fled back to his apartment, spent days fretting round in his little lead protected laboratory trying to collect his demoralized thoughts, trying to force his mind to marshal together the facts he had obtained.

It was while he fought this battle with himself that things rose to a dangerous pitch in the world around him. He was aware of them as events detached, through radio reports and television. On the very night that Jane had died the voice had spoken again, repeating its command for the destruction of armaments or death to humanity through cosmic rays.

Stubborn government leaders challenged the Face, the so-called extra-universal being, to do its worst. They would not consent to destroy armaments. They would not, no—but a humanity tortured by insufferable burns, forced to watch their loved ones perish under the influence of the unknown, demanded action. Deputations rose up in America, England, and Europe, swept in mobs against the portals of government and screamed for the destruction of armaments.

The demand was coldly refused.

And as the hordes demonstrated, as Stu moodily gazed from his window upon the almost paralyzed city of New York with its surging, angry people, most of them disease stricken, the Face loomed over it all, bigger than it had ever been, filling all the evening sky. A sky that was all brooding eyes, tight lipped mouth and cruel jaw. Never had a more incredible vision loomed in the heavens of man.

Slowly, Stu began to drag himself out of his depression. In his hands was a possible solution to all this. Jane would have wanted him to carry on. There were millions of Janes in the country, perhaps doomed to die as she had. He turned, tight lipped, suddenly the master of himself again.

He could not work here with the babble of an excited population disturbing him. Methodically, he collected together all the stuff he needed, including his lead shields, packed all the stuff in his car then started off for his shack in the Adirondacks. The quieter atmosphere of the country cleared his brain a little. He drove at a moderate speed, ignored the silent people he occasionally passed as they stood looking up in horrified fascination at the Face looming over all the land.

And now, away from the screening edifices of the city, he saw a peculiar-

ity about that Face that arrested his attention. The lower half of it was obliterated by a perfect curve, which made the chin taper down on each side to pointed ends and cut the center squareness right out. For a long time it puzzled him as he drove along; then as the deepening bay of dark spread slowly up the Face, allowing the stars to show in the dark portion, a gleam of understanding came into his eyes.

He stepped on the gas and drove with an impatient savagery through the deepening night, reached his isolated foothill hut at last and passed inside, switched on the mountain stream-driven generator. The lights came up.

Throwing off his hat and coat he set to work with notepad and pencil, working right from the beginning of the problem to the existing conditions. An hour later he sat back, pondering.

"If my guess is right the Face will be directly overhead in two more nights," he muttered. "At a height of one hundred miles, and a stratosphere bus will only do fifty. How to get up a hundred miles?"

That stumped him for a moment. Then out of the mist of memory came an observation Jane had once made.

"In that radio apparatus you've got the basis of remote control anyway. You could control anything for a hundred miles and more."

He snapped his fingers in decision, twisted round and began a search of the bench. At last he found what he wanted—the model rocket he had made for early space flying experiments, lying now with its discharge cylinders forlornly empty.

"But not for long!" he breathed, snatching it up. "Boy, this is going to tell me something!" He gave it an affectionate pat, then set to work with his tools. He wielded them far into the night, only stopping toward dawn when

he grew too weary to concentrate. Before he retired he gave a final glance out of the window. The Face was still there to the north, but a quarter of it was obliterated by curved, starlit dark.

"Face!" he snorted contemptuously. "Hell, and to think I once thought of an extra-universal being. I must have been nuts!"

With that he threw himself on his bunk and fell into exhausted slumber.

IT was on the following day, as Stu worked away isolated from the world, that Governments were forced into concerted action by the people they controlled. Seeing the higher ups would not of themselves take any steps to obey the commands of the Unknown, the people acted for themselves. They paraded in vast armies, laid hold on their particular country's armaments and began a rampage of destruction.

Throughout the day the true nature of the rank and file of earth's humanity became revealed. Rulers looked on helplessly as countless millions of dollars' worth of material was blown up, fired, wrecked, or sunk. The average man and woman, realizing the choice lay between death or the obliteration of war menace, acted with savage promptness. Nation joined nation as the average man and woman went to work in yelling, resolute hordes and invaded the armament factories that had so long loomed over them like Golgothas of steel.

Even to Stu's ears, far though he was from the city, there came the sound of violent concussions as munition works were blown sky high. His television, which he consulted from time to time, brought to him scenes that were staggering in their import. He saw sudden and absolute disarmament. He saw views of monstrous ships of war sinking at sea. Scenes flashed from the Amer-

icas, from Europe, from Britain, from Pole to Pole indeed. Planes were crashing, munition works vomiting flame and destruction, millions upon millions of people milling around in fanatically enthusiastic myriads, intent on destroying the substance of the shadow that had so long fallen across their progress. Nothing else mattered. Business, normal routine, pleasures—all that was swept away in a mad orgy of obedience to the Face in the sky, and Common Sense!

The disarmament went on far into the night with its thunders and concussions. The sky was livid with red. And the Face was there again, taking account of everything—or so the hoarse voiced announcer declared over the radio. Stu glanced at the man's worried face in the televisior, then smiled bitterly.

"Wonder just how gullible the average man is?" he murmured, and peered through the window. As on the previous night, the Face was half obliterated by a circle of dark; and this night the dark had encroached further than ever. On the next night, according to Stu's calculations, the Face would be at its closest.

Throughout the night, and all through the next day, the destruction of armaments went on. Years of work, fortunes in money, were destroyed in those hours by war sick millions. Cannons ran in rivers of molten steel, shells exploded harmlessly in the sea. Engines of war were blasted asunder. In something like sixty hours the desperate arms' race of half a century was wiped out. The people were satiated. They waited—for relief, went home under the smoke ridden skies. They waited for the first word telling them the Plague had stopped. They had obeyed the command and eradicated armaments, even if it had been against the

wish of their war-minded rulers.

But relief did not come. The erysipelas plague was still going on. Bitter, smoldering with resentment, the people of the world awaited an explanation. It came in the late evening.

STU had his radio on, also waiting. In Silence he sat listening as the static ridden bass voice rumbled forth across the interplay of electric forces.

"People of Earth, you have done well. You have obeyed. . . You have realized the folly of war and destruction. The cosmic ray attack will cease in two more days. The cosmic forces have indeed been stopped already, but such is our distance from you it will take two days before you notice the benefit. I am satisfied. From now on I shall withdraw, a process which to you will seem as slow as my approach."

Stu switched off as the voice ceased, sat grimly smiling to himself.

"Of course you'll withdraw, because you can't do anything else!" he said slowly. "And of course the erysipelas will stop in two more days because there won't be enough sunspots to keep it going! Cunning and clever—but what's back of it?"

He shrugged, got to his feet and picked up his rocket projectile. He gave a final once over to the firing cylinders and the remote control pickup mechanism he had embodied. Finally he satisfied himself the thing was dead in tune with his radio transmission waves.

Tugging open the door he carried the rocket outside and centered it on the heavens. Directly overhead was the Face, three-quarters of it eliminated by a circle of black through which stars shone. He surveyed it pensively, stared round the deserted landscape and mountains for a moment, then ignited the rocket's firing cylinders. In a second

or two it hurtled upward with a swoosh of air.

Reaching inside the door, watching the tiny, receding spot of flame that marked the rocket's position, he operated the dials of his radio transmitter, controlled the experimental tube on its flight into the loftiest levels of the earth's atmosphere.

Precalculation of the rocket's speed and distance of the Face revealed to him exactly when the rocket had reached as high—and higher—than the Face. Only then did he handle his controls more delicately, knew that the flying tube had opened a small container and close it again. Then he guided his investigator slowly back to the earth, until it fell gently outside the shack door.

Instantly he raced with it into the bright light, tugged off the container top and shook out a little heap of blue-gray crystals.

"Barium platino-cyanide crystals!" he yelled. "Last time it was dust. I was right! The Face is made up of these crystals! It doesn't live, and never did! Everything, except the voice, fits in!"

He stood brooding over the stuff, brows knitted, trying to fit in the last pieces of the problem. Then at last he rose from his profound thought as above the drone of his generators he heard the sound of approaching feet on the mountain path. He turned sharply, just in time to see three men come through the doorway.

ONE of them he immediately recognized as Professor Walters, head director of the Observatory Board. The other two looked like officials of some kind or other.

"Why, Professor!" Stu cried, amazed. "How did you know I was here?"

Walters' broad, kindly face was troubled.

"I'm afraid your own radio speech brought us here," he said quietly. "These two gentlemen are from radio headquarters. The voice transmission tonight came through well enough to be properly located. It came from here. Naturally we do not need to look further. Your generators are still running. Bates, just why did you do it?"

Stu stared, open mouthed. "But—but this is ridiculous, sir! I never caused that voice. I'm still trying to figure it out. I have solved everything but that."

"The voice came from these mountains, approximately here," said one of the officials. "We took a plane here immediately. Since these mountains are higher than the general land it naturally looked as if the voice came from the north and from above."

Stu scratched his head in bewilderment. Then Walters moved forward.

"Bates," he said, in his level voice, "you say you have solved everything else. If you have, you've accomplished a miracle. I have arrived at no conclusions and certainly Granville did not. I had the Board dismiss him as a matter of fact. Just what have you found out?"

"Plenty! First, what do you figure the Face is?"

"I don't know. No scientists believe it is a genuine face, of course, but its exact nature is a mystery. What are your views?"

Stu smiled contentedly, felt it was ample repayment for his work to have the big man standing there listening to him.

"You may remember the recordings of a V-shaped wedge on Pluto some time ago?"

"I remember. A meteor, wasn't it?"

"A meteor of tremendous size col-

lided with Pluto and chipped out a V-shaped piece. Pluto, you may recall, has a considerable percentage of platinum and barium in its makeup, and what slight atmosphere it does possess is mainly cyanogen.* Doesn't that suggest to you that a good deal of Pluto's surface and subsurface would be composed of barium-cyanide? Cyanogen gas unites easily with metallic ores, you know."

Walters raised his bushy eyebrows in some surprise, nodded slowly.

"That meteor," Stu went on keenly, "smashed a huge piece out of Pluto. The piece became dust, drifting in a big sea in space. A sea of barium platino-cyanide crystals. The meteor went on into space, invisible. It happened, by the sheerest of coincidence I admit, that that dust formed into the outlines of a face, and there is no wind in space to disturb dust, so it just remained. You follow, sir?"

"Ah-ha," the big man acknowledged.

"As anybody knows, barium platino-cyanide is fluorescent when reacted upon by X-rays. It happened that that dust was released in space simultaneously with the sun developing extreme sunspots. Eddington showed us long ago that X-rays increase enormously when sunspots are prolific, and never in the sun's history have spots been so prolific as recently. First, they created violent electric storms in the stratosphere; they weakened it a great deal. Then the X-rays reached out across space far enough to touch that barium dust. It fluoresced, glowed, and looked to us like a giant face. At the same time the rays were coming to Earth from the spots and passed easily through the weakened Heaviside Layer, causing what looked like erysipelas, actually X-ray burning."

THE three men were leaning forward now in intense interest.

"It was *not* cosmic rays," Stu said quickly. "Cosmic rays had increased fourteen percent, and that was not enough to burn anybody. The weaker Heaviside Layer was responsible, of course. It showed me that the voice had told lies, anyway. Naturally, Earth was drifting closer to the dust field all the time—and tonight it is as close as it ever will be.

"I got the first clue when I found that erysipelas was striking the world. X-rays might be the cause, I thought, particularly as in the sunless Arctic there was no sign of the disease. X-rays might react on crystals suspended in space. A night test of the stratosphere showed no signs of X-rays because the sun was on the other side of the earth. Because of its distance away, the crystal cloud was affected by solar X-rays just the same. The Earth was not then casting a shadow on it. That came later, when the Face was really near. When I saw the Face being eclipsed by the Earth, as it blocked the X-rays from the sun, I tumbled to the idea that the Face was a phony.

"Actually, I had had a guide before that. Parts of the dust had drifted through space and the plane I experimented in had barium dust on it. By daylight I found X-rays very prevalent, and so decided to protect myself with lead shields. Well, the composition of Pluto, X-rays, and erysipelas all seemed to fit the Face. To make completely sure I sent test rocket into the Face; it came back with a load of barium crystals inside it. That cinched it."

Walters stood in thoughtful silence.

"Certainly a fine piece of scientific, deductive reasoning," he said at last. "And entirely accurate because the points hold together. But Bates, about the *voice*?"

* Lexy's "Speculations on Pluto."

Stu shook his head.

"That's had me licked all along. Back of the voice there must be somebody who had reasoned it out like me and took advantage of a natural phenomenon to make the world disarm. A laudable idea, of course, but how it was accomplished I don't know. The voice said tonight the cosmic ray attack—so called—would end in two days. That's correct, because sunspots will then have gotten to the place where X-ray attack will diminish enormously. The Face too will recede because we are already past the barium field of dust. But the voice—"

Stu stopped suddenly. His eye had caught the detector needle of the radio, as he had switched it off after listening to the voice. He jumped forward, stared at it as it pointed upward and northward.

"Of course!" he cried hoarsely, swinging round. "Sure it points above—*higher up this mountain range!* The main range is slightly northward of here and I'm only in the foothills. That's where the real source of the voice is! Come on!"

HE snatched down hat and coat and led the way outside. Talking eagerly among themselves the four of them blundered up the mountain activity, watching keenly as they went, their way well lighted by the half eclipsed Face in the sky above them.

Higher they went, and higher, always northward. For an hour, for two, for three, into the upper reaches of the Adirondacks. They calculated they must have ascended at least 1800 ft. above Stu's foothill shack before Walters in the forefront, suddenly stopped and pointed ahead to a level stretch skirting a precipice.

Upon it, clearly revealed, though the windows were in darkness, was a good

sized shack.

"There!" he cried, as excited as a schoolboy. "Come on!"

He raced forward and reached the door, thundered imperiously upon it. At last there came a quick sound from within, the sound of bolts shooting back, then the portal swung wide and permitted a flood of light to stream in the dark.

Against it stood a tall figure in a smock. Stu pushed past into the light, then stopped dead. The man was Dr. Madison!

Stu twisted round to stare into a room replete with radio and other machinery. But to the machinery he paid no heed. His whole gaze was centered on the figure at the far corner. Jane Carter! Pale, yes, but unscarred, and certainly very much alive.

"*Jane!*" Stu's voice split the sudden silence.

She came forward, smiling a little. Stu felt his heart racing wildly as he reached out and touched her. She was solid all right.

"No—no," he panted. "I'm going nuts or something. I—Who are you, anyway?" he demanded, whirling round on Madison.

The man smiled a little. "David Carter, Jane's father. I guess this is a terrific shock to you, Stu, but—"

"Shock! It's mad—insane!" Stu shouted. "I saw Jane buried and then—"

"No, Stu, you didn't," the girl interposed quietly. "You saw a *coffin* buried, but I wasn't in it. Matter of fact I was here at the time."

"Suppose you start in to explain things, Mr. Carter?" Walters asked quietly. "I gather you are responsible for the voice?"

CARTER inclined his head. "We have done nothing wrong, my

'daughter and I. We only destroyed the menace of war forever and brought a saner balance to the people of the world. A finer civilization will rise out of it. The erysipelas was not our doing either; the sun caused it."

"I'm aware of that now," Walters nodded. "But what's the reason for all this?"

"Yes! What?" Stu demanded, throwing an arm round Jane's shoulders.

"The only way to go to work at the vital moment was to maintain strict secrecy," the girl herself said quickly. "I couldn't even let you into it, Stu, in case you accidentally let something slip. So I pretended to die. With make up, false scars, and what bit of acting ability I possess it was not very difficult. Father, as a bogus doctor, did the rest. You never saw me closely after my supposed death, remember. And Maisie was in the know."

"Ingenious, but what's the idea?" Stu snapped.

"We maintained secrecy in case we should be accused of the X-ray attack, for which of course we were not responsible," said Carter. "Jane here relayed to me your theory of an extra-universal being, and I decided I could use it to build up my own idea. You see, long ago I knew the Face was not genuine. I have always loathed the drift toward war. I calculated I might, with a bit of luck and ingenuity, force humanity into disarmament. I accomplished it in the way you know. I've had this shack up here for years, experimenting with methods for interplanetary communication—just as you have, lower down the mountain range."

"But the voice!" Stu cried.

"That was easy," Jane smiled. "At the studio we often make voices which have no person to utter them by impressing the appropriate sound waves

on film then running the film over a photoelectric apparatus in the fashion of talking pictures. I had no difficulty in learning from a technician how to create a voice of terrific depth; simplest thing in the world. You can make any sound with the correct film technique.

"The first message was run through by father up here when I was with you, and he made it faint to give the impression of distance. When I handed him your extra-universal being idea he decided to use it and made some appropriate speeches."

"Naturally I took a long chance," Carter smiled. "If the disarmament had not taken place before the end of the sunspot X-ray attack I would have been stumped."

"For such knowledge you must have a tremendous grasp of science," Walters remarked, frowning.

"Just what I'm thinking," Stu said in surprise. "Jane told me you were a lawyer in Chicago, sir."

Carter smiled. "Ever heard of Felminoff?" he asked briefly.

"Not *the* Felminoff, the famous scientist, theorist, and pacifist!" Walters cried.

"I'm afraid so," Carter chuckled. "Only, like any man, I do not like ridicule. I was afraid that was what I would get when some of my theories were published so I assumed a name. Also I thought it better to keep the name of Carter out of it—in relation to myself—when Jane became famous. Nobody could say she'd gotten her success because of a famous parent. See?"

Stu began to grin. "No wonder you had it all doped out!" he cried. "Gosh, if only I'd known you were trying to do interplanetary radio! Now I see where Jane gets her scientific—"

He stopped suddenly, staring in front of him. He glanced up suddenly at the
(Concluded on page 140)

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ROCKET RACE TO LUNA

By ROBERT MOORE WILLIAMS

"THE idiot!" said Captain Timothy Wayne savagely. "The utterly hopeless imbecile. If ever I get my hands on him, I'll break his da—"

He checked himself abruptly, looked down from the vantage of his six feet three inches at the five feet one inch girl standing beside him.

"—darned neck!" he finished.

"I heard you the first time," she answered. She was wearing boots and breeches. A pilot's helmet was thrust back on her head, revealing a halo of red hair. There was a dab of grease on her nose.

Tim's face turned brick-red. Not that he objected to a good hearty damn. As an ex-space pilot, grounded because of weak eyes and set to work teaching fledglings how not to fly, he possessed a profane vocabulary unsurpassed even by the men on the Jupiter run. His students unanimously agreed it was the best in the solar system. His students knew. They had occasion to hear it.

But Patricia Walsh was not a student. She was, as Tim expressed it, a nuisance. The daughter of a space

liner captain, she had almost grown up in Space Port. When Tim had been grounded and assigned the soul-breaking task of instructing others to fly, she had attached herself to him, demanding that he teach her how to pilot a rocket flier.

Teach a woman to fly! Of all things! Apparently oblivious of the flush on Tim's face, she was staring upward, her

eyes glowing as she watched a speedy little flier cavorting overhead. Thus reminded of the object of his wrath, his head jerked up. For a second he gazed. Then

**Timothy Wayne spanked
a headstrong girl, and his most
promising pilot faced death.
Had he used the wrong tactics
to teach her the difference be-
tween a brave man and a fool?**

rumbling noises sounded in his throat.

The ship, a fast sport job with short stumpy wings to aid in navigation within the atmosphere, came flashing down the sky, its rocket motors thundering in a terrible drum beat of lashing sound. Down and down it came, in a steep slant, little short of a power dive. A scant five hundred feet in the air, it flashed overhead, fire jutting from its tubes. Then the pilot pulled it out of its slant, hung it on its nose, and aiming at a wisp of cloud, began boring upward into the sky, laboring motors blasting



"The idiot!" said Captain Timothy Wayne savagely. "He'll break his neck!"

their hot breath downward.

From the hangar a group of students emerged, attracted by the clamor in the sky. They gawked enviously upward. Tim, fortunately, did not see them.

"Blankety blanked idiot!" he muttered, deep in his throat.

"With the exception of the blankety blank part—the meaning of which I did not catch—you called him that once before," Patricia remarked impersonally, her eyes on the rising ship.

"Then he's doubly an idiot. Anybody who uses a ship like he is using that one is a quadruple damned fool!"

Patricia flushed. "It seems to me that Johnny is handling his ship very nicely."

"Nicely!" Tim howled, infuriated as much by her choice of words as by her defense of John Winston. "He handles his ship very nicely! Do you know what he was doing when he came over here?"

When she did not answer, he roared, "Fifteen hundred at least."

It is, and always has been, and always will be poor policy to roar at a girl who has red hair. Her nose, grease spot and all, went a little higher into the air.

"But that's nothing. Ships in space do ten times that with perfect safety."

Tim did not see the lifting nose. It would have made no difference if he had seen it.

"Listen, woman, you don't have to tell me what ships do in space. I know. They do up to twenty-five thousand miles an hour. But that's in space, on a charted course, with half the universe to turn around in. It's not in an atmosphere. That damned fool up there—" He gestured toward the flier which was disappearing into the thin layer of clouds—"doesn't know how much pressure he is putting on those wings when he pulls out of a slant at fifteen hun-

dred. That's an E-9 sport job he's shoving around. It's made by the Wendell Company, and it's as staunch a ship as was ever built. But he's shoving it beyond its wildest safety factor limit. He'll take a wing off and before he can bring his supporting rockets into action, he'll have dug a grave fifty feet deep—only there won't be enough of him left to bury in it."

"And you, I suppose, will be glad when it happens. You'll be able to go around and tell everybody that you told him so!" Patricia snapped.

Tim wobbled like he had taken a body blow.

"I—glad? Pat!" There was pain in his voice.

Her temper was up. "You're like all the rest," she flung at him. "If you had your way, every pilot would go to school for years before he was even permitted to look at the inside of a ship. You'd make him learn the name of every rivet, where it was located, and why. You'd make him study mathematics until he had a long gray beard . . ."

She paused for breath. "I'm glad Johnny snapped his fingers at your old school!"

This was something a little worse than treason and she knew it.

Tim forgot all about the ship in the sky. His face showed a slight tinge of purple.

"You've got the colossal nerve to defend John Winston's actions to me!" he roared.

"Certainly. He's a natural born pilot and you know it. He doesn't need to go to school. Handling a ship is second nature to him."

Tim could scarcely believe his ears. This from a girl with grease on her nose, grease that she had got there by digging into a rocket motor.

"Winston is a quitter and you know

it," he rasped. "He turned up here and wanted to be a pilot. Not because he needed a job, but because piloting was a romantic occupation. He passed the physical examination with the best grade that has been made in years and was admitted to training. How long did he last?"

"That doesn't matter."

"One week Mr. Winston honored us with his presence, one week he lowered himself to meet classes. Then he left us."

"You can't blame him for that. You would have kept him in school for a year. Classes six days a week, nine to five each day, with homework half the night. Then, if he knew where every rivet was located and why, if he knew enough mathematics to teach the subject in any university, you would make him spend another year in ground training. After that, he would be qualified as an assistant freighter pilot. Two years there, and he would be licensed to handle a freighter. After two years on the freight lines, he could apply for further schooling. If he survived all that, he would be—what? An assistant pilot still, licensed to handle a passenger ship in space but not to land or take off."

"You're just exactly right," Tim hissed between his teeth. "Piloting is a job for men. No panty-waists wanted. As soon as Mr. Winston discovered what was ahead of him, he resigned. Then he talked his old man—who has more bucks than Saturn has satellites—into buying him a sport job. He talks himself into an experimenter's license, comes back here, and in a month he's cutting monkeyshines all over the place. Sure, he's a natural born pilot. He knows enough to push buttons, and as long as he can fly a ship by pushing buttons, he's a holy wonder. But if anything ever goes wrong with one of

those buttons while he's in the air, nobody will have to dig a grave to bury him."

HE was going to say more and he had his mouth open and the words on the tip of his tongue when the distant thunder of drum fire in the sky made him look up again.

The sport ship came through the clouds like a sleek bullet, with a tail of fire.

"Oh, Lord!" Tim whispered. "He's in a power dive. He'll take his wings off sure when he tries to pull out!"

His face white, he watched. He knew the tremendous pressures developed on those stubby wings. Even if they were steel, the chances were they would crumple like paper when Winston used his elevators. If his forward tubes faltered even once when he used them as brakes, the ship would go straight on into the ground.

Tim held his breath. He had seen a few crashes. He knew what they looked like. He felt sick.

Pat's eyes glowed as she followed the screaming descent of the ship.

"For heaven's sake, use your forward tubes!" Tim screamed, as if Winston could hear him.

Another half minute, another ten seconds and even the firing of the brak-ers would not slow the ship.

Winston waited until the last second. He was aiming directly toward the center of the landing field at the port. To the watchers on the ground he seemed to be standing still in the sky and rapidly enlarging. Then the nose of the ship exploded in white fire. The bursts from the forward tubes were a continuous thunder of roaring sound, the explosions followed each other so rapidly the ear could not distinguish between them.

Johnny Winston was using his brak-

ers as the makers never intended them to be used. Tim could almost see the metal in the forward tubes turning white under the heat—beginning to form in droplets—running—

Sometimes those ships didn't land. Sometimes they exploded their tanks in the air—especially if the tubes were overloaded. A stuck valve, the white heat of the metal flaring backward, catching the fuel in the input compressor. . . . The compressor exploding and the main tanks going with it. . . . Blooie!

Winston's tanks didn't blow. Under the driving force of the brakiers the ship slowed. The nose lifted up as the combined forward tubes and elevators worked on it.

Tim could imagine the beating Winston was taking inside that cabin, the tremendous velocities tearing at his body, choking him, trying to beat him into unconsciousness.

But he got the ship out of the dive. He forced the flier into a long slant, lifted the nose farther and sent it careening parallel to the ground. The thunder of his rockets echoed back from the distance, blasted heavily as he turned, grew to a steady song as he came back to the port. Using his vertical and his forward jets, retractable landing wheels already out, he set the ship neatly down on the concrete runway.

Tim exhaled his breath in a panting sigh. He took off his cap and mopped the perspiration from his forehead. He felt as weak as a cat.

"It was wonderful," Pat thrilled.

"Uh . . ." Tim gulped. "What!"

"He handles his ship like a master." There were stars in her eyes. Tim saw the stars, and guessed at the meaning.

"Listen," he said harshly. "If you think you're going up with him. . . ."

"Who said anything about going up

with him?"

"Nobody. But you're thinking about it. It's written all over your face," he challenged.

She accepted the challenge. "That's exactly what I'm going to do. He asked me, several days ago, but I knew you'd scream bloody murder if I did. Now—" She was a little breathless. "—I'm going to do it."

He was appalled. "If you even get near his hangar, I'll—"

"You'll what?"

"So help me, Hannah, if you go up with that reckless fool, I'll turn you across my knee and spank you like the spoiled brat that you are!"

Her nose, grease spot and all, went sky-high.

"I'm free, white, and exactly twenty-one, Captain Timothy Wayne," she said, and ice would not have melted on her tongue. "You will please remember that in the future."

He was groping for words when the thunder of approaching rockets jerked him around.

JOHNNY WINSTON taxied his ship to a stop beside them, killed his motors, kicked open the cabin door, and stepped out. His face looked a little sallow but he still bore himself with a jaunty air.

"Beauty and the beast," he said as conversationally as if he had not risked his life minutes before. "Quarreling again, I see."

"Winston, you're a fool. If I had my way you would be kept on the ground until you learned what metal will stand and what it won't. You just put a ship through a power dive—"

"It stood it, didn't it?"

"Yes, but you don't get any credit for it. The ship is so well built that even a fool can fly it."

"Aw, you and your slide rules make

me sick."

"Don't pay any attention to him, Johnny," Pat interposed. "He's as cross as two sticks this morning. I thought you handled your flier very nicely."

"Thanks," Winston bowed. "Are you ready to take a little spin with me?"

Unconsciously, before she answered the question, her eyes went up to Tim to see what he would say. But he wasn't looking at her. He was looking at Winston.

"If you take her up in this or any other ship," said Tim quietly, "I'll see that your license is cancelled."

There were men on the Jupiter run who could have told Johnny Winston about Tim Wayne when he spoke quietly. As long as he roared, he wouldn't explode. But when he got quiet—well, it was time for dogs and children to be under shelter.

But Johnny didn't know. That was the biggest trouble with him. There were so many things he didn't know. He chose to point out his rights.

"She has an experimenter's license. So do I. That means we can fly together. Certainly I am going to take her up if she wants to go."

The smack of Tim's fist was a hard flat sound that brought the students out of their hangar again. The fist landed square on the point of Johnny Winston's chin. He went down like he had sand in his legs. He didn't get up. He didn't open his eyes. He sprawled against the right wheel of his flier, sprawled grotesquely.

Tim gawked at him foolishly. He had hit him hard, but not hard enough to knock him out. He hadn't wanted to knock Winston out. He had wanted to beat some sense into his head.

"You beast!" Pat screamed. "Couldn't you see he was so weak from the beating he took trying to pull him-

self out of that dive that he could barely stand up!"

She dropped to her knees, sat down on the concrete and lifted Winston's head in her lap.

"I didn't notice," Tim gulped. "I didn't mean—"

He tried to help her.

She slapped at his hands.

"Listen, Pat . . ."

"I'm through listening to you." Her eyes were blazing with angry lights. "Since you've been grounded, you're so jealous of everyone who has wings that you're insufferable. That's why you're so hard on your students. You know that someday they may win their licenses and you're so envious that you do everything you can to break them. You've deliberately stiffened the courses. If you had your way, you would keep every student on the ground—because you've been grounded yourself. That's why you hate Johnny. He had the nerve to laugh at you and the great Allied Rocket Company Training School."

His face was white again. He spoke quietly.

"Pat! That isn't true."

He was leaning over pleading with her.

"It is true!" she flared. "Get out of my sight. I don't ever want to see you again."

She slapped at him viciously. Her fingers left red grooves on his white cheek. His glasses went spinning.

For a moment he blinked at her from weak eyes. Then he began to hunt for his glasses. He found them. One lens was broken but he put them on anyway. He walked across the concrete. His heels ringing, he strode into the hangar.

The awed students scurried back to their tasks. He didn't roar at them to get back to work. He didn't seem to

see them. He walked through the hangar and into his office, quietly closing the door behind him.

Pat watched him go. Before he was out of sight she tried to call to him but the words stuck in her throat and he didn't hear her. And he didn't look back.

Then Johnny Winston stirred in her arms. When he regained consciousness his first inclination was to follow Tim into the hangar. Pat wouldn't let him. He looked at her. He looked at the hangar. Then he looked at her.

CAPTAIN TIMOTHY WAYNE went into his office and sat down at his desk. He sat there a long time without moving. Then he opened a drawer and pulled out a folder.

It was filled with pictures. She was in pigtails when the first one was taken. There was grease on the ribbon in the tails. She had been ten when it was taken and Tim had been a gawky student in ground school.

There were other pictures, many others, snapped with a candid camera. In one respect they were all alike. If it wasn't on her nose it was on her cheeks or on her forehead or on her chin or on her hands. But always somewhere there was grease.

Tim couldn't see them very clearly. His vision was a little fogged. But that was because there was only one lens in his glasses.

"Grounded at thirty-two," he said.

He placed the folder back in his desk and locked the drawer. He got to his feet. He walked outside, got in his car, and drove away. His glasses were broken and he was looking for an optician to repair them.

He returned to the port just in time to see a sport model drop down out of the sky, rockets flaming. It hit the runway with a drunken roll but was speed-

ily righted.

It taxied down to the public storage hangar.

Two people got out of it. Tim could easily tell there were two. But even with his new glasses he couldn't tell whether one of them still had that dab of grease on her nose.

During the days that followed the students of the Allied Rocket Company Training School walked very softly and worked very industriously when Captain Timothy Wayne was present. But—wonder of wonders!—he was as gentle as the spring breezes that blew through the hangars. He never scolded, he never found fault, he never resorted to profanity, not even when the peculiarly intense thunder of the rockets of a certain sport model roared down from the sky. Apparently he never heard the rockets. He never raised his voice when the rolling hurricane of sound beat down. Instead he lowered it.

Within a week the students, who to a man knew what had happened, were contriving with might and main to bring down his wrath upon their heads. This white ghost that stalked so quietly through their ranks was getting on their nerves. They fouled a tube. Tim quietly told them to replace it, pointed out what they had done wrong. They ruined a valve assembly. Their boss said they had better junk it. They forgot their slide rules, their books of tables. He sent them back to their rooms after the missing articles.

The section of Space Port in which the training school was located was devoted almost exclusively to private ships and experimental work. The liner landing field was a mile to the south, the freighter docks a mile to the east.

Daily the thunder of rockets in the training and experimental section became more frequent. Johnny Winston

and his sport job accounted for part of the noise, but not for all of it. Other ships were gathering, sleek streamlined jobs that were mostly engine and tanks, and the roar of their rockets was a growing growl in the sky as motors were tuned and brought to the highest peak of efficiency. The hard-faced men who flew these ships were getting them ready for the most gruelling test of men and equipment ever devised—the annual Earth-Moon race.

OUT to the moon, circle it without landing, and back to the starting point. The record time, established in 2118 by Lieutenant Eli Barnes, of fifty hours and nine minutes, looked like it would stand forever. It had stood for nine years, despite the fifty thousand dollar prize, and eternal fame, waiting for the man who lowered it.

Fifty hours of the hardest acceleration the human body could stand. Twenty five hours out, fighting to break the gravity of earth; twenty-five hours back, fighting to slow a madly careening ship riding the gravity lines down to earth. Fifty hours of hell. Only it had never been done in fifty hours.

There were seven entries in the race. When Tim read the names he thought his eyes had gone bad on him again. What he saw just couldn't be true.

John Winston and Patricia Walsh! He thought the newspaper had made a mistake. Then he saw the picture. "First Woman Ever to Fly in Earth-Moon Race."

The dab of grease was under her left eye.

He walked out of the hangar, down over the concrete where the ships were being groomed. Winston, lounging beside his ship, stiffened when he saw him coming. Tim ignored him. Pat was inside the ship, digging into a valve

assembly. She came out when Tim stuck his head in.

He held the paper in front of her. "You don't mean this!"

She avoided his eyes. "I do mean it. I'm going along as co-pilot."

For days he had held his temper in check. Now it was a seething turmoil boiling deep within him. But he controlled himself.

"You don't know what you're doing. This race is pure, unmitigated torture. It's a man-killer. No first-class pilot will touch it. Only fools!" His voice was bitter. "—and publicity seekers, dare-devils, stunt-men, enter . . ."

"I suppose," she said, her voice husky with suppressed emotion, "Johnny and I can choose the category in which we belong. As for myself, if you represent the wise men, I choose to be included among the fools!"

Tim's face got whiter. His voice dropped lower.

"But you don't know what you're doing," he protested.

"I've been in space before. I've flown as fast as we will fly in this race."

"It isn't the speed. Any liner in space will fly as fast as you will. It's the acceleration. A liner takes days to build up the speed you have to achieve in hours; the same length of time is needed to slow down. Even with sponge rubber pads a foot thick to protect you, the acceleration is killing."

"I am perfectly familiar with the hazards, Captain Wayne. And now, since you must be leaving, I have work to do."

The cauldron seething inside of Tim boiled over. He knew, subconsciously, that he should not do this, but he was angrier than he had ever been.

"So help me Hannah—" he gulped. Then he was sitting in the door-step of the plane and the haughty Patricia

Walsh was across his knees, face down, and Tim's good right hand was being applied to the seat of those riding breeches, on the spot where it would do the most good, he hoped.

The process was not so painful that she could not endure it. Physically, she was not hurt. But the shock to her dignity and pride drove her almost wild. She tried to scratch, bite, and kick, but Tim was a determined man, and the more she wiggled the more he applied the palm of his hand. When he released her, the seat of her breeches was almost smoking.

"There!" he said. "Maybe that will teach you I mean what I say!"

Her hands smacked into his face, both of them. They beat a tattoo on his cheeks. He grinned at her, which added to her fury. Then she knocked his glasses off, and as he stopped to retrieve them, she leaped inside the ship, her face flaming scarlet, and slammed the door.

"You needn't bother reaching for your glasses," said John Winston. "I haven't got sand in my legs now and during the next few minutes you won't be needing your glasses."

It took the efforts of half a dozen mechanics, one pilot, and two husky cops from the force at the field to separate them. The next thing Tim knew he was looking at bars. The bars were in a first-class jail and he was charged with assault and battery. He remained in jail until late in the afternoon, when his students, pooling their resources, bailed him out.

HE got back to the port just in time to see the seven contestants blast into the sky.

The Earth-Moon race was on. Johnny and Pat were in it.

Tim went into his office and locked the door. He flipped on the radio, and

listened. The announcer was on a rocket ship hovering just above earth. He could cover the start and the finish. Another announcer on the moon, using a powerful micro-wave that would smash through the Heaviside Layer, would cover the turn for the listening millions back on earth.

"They're coming up through the upper layers of the atmosphere now, seven sleek ships spread out into a fan, blasting at maximum acceleration and picking up speed with every second. Thirteen men and one woman—the first woman ever to fly in this race around the moon—are in those beautiful ships. John Winston, flying his ship like a master, is already beginning to slip into the lead. He's setting a mighty fast pace. The question is, will he be able to keep it up? If he can maintain his present rate of acceleration, he has a chance—and a good one—not only of coming in winner but of nicking time off that fifty hours and nine minutes record set by Lieutenant Barnes nine years ago . . ."

The announcer was excited. And worried. "But will Winston and his partner, Miss Patricia Walsh, be able to stand the pace they're setting?"

Savagely, Tim snapped off the radio. He didn't want to hear any more. If Winston had been content to take his acceleration slowly, like the old heads in the race, he stood a chance of getting through without harm. But Winston was a fool. He was forcing his ship for all it would stand. He and Pat were young and healthy. They could take that feverish strain for a few hours, and not realizing the deadly accumulation of energy-sapping pounding, they would think they could make the whole race at the pace they were setting at the start. They would never know the mistake they had made until sluggish, worn, aching, tired muscles



Johnny Winston
rounded the
moon in the lead

refused to respond to the will that drove them—or until there was no will to drive them.

Ships had crashed before in this race, as their pilots, driving them too hard, lost consciousness, the uncontrolled fliers coming down to earth with the velocity of meteors. Ships had exploded out there in the void as over-worked engines rebelled against their human masters.

During the next twenty-four hours Tim did not sleep. All night he stayed in his office. And all day. His students knew where he was. But they

stayed away from him, in silent sympathy.

At the end of the twenty-fourth hour he knew the worst. Johnny Winston was far in the lead. He had already rounded the moon and was heading back. He was past the halfway mark. He had set a record on the first lap.

The announcer on the moon was frantic.

"Winston is leading the field by an hour and three minutes. He has already established his course for earth. His speed is tremendous. How fast he is traveling, we are unable to determine,

but he must be moving somewhere between thirty-five and forty thousand miles an hour—far in excess of orbital velocity. *And he's still accelerating!*"

The announcer became incoherent but that didn't make any difference to Tim. He only heard the words, "*And he's still accelerating!*"

Still driving, still firing rhythmic blasts from his rear tubes. Already moving at a hellish speed, greater than the normal speed attained by liners with millions of miles ahead of them in which to slow, and still building to that speed.

"Lord . . ." Tim muttered. "Lord . . ."

The way he said it, it sounded like a prayer.

Then he was talking to himself.

"Please, Johnny . . . Please . . . You can have Pat, you can have anything you want, only please start slowing down. You'll never, never, NEVER—" his voice rose to a shriek "—make it if you don't."

But Johnny didn't. Two hours later he was still driving. The announcer on the moon had seemingly gone crazy. He, like Tim, like the shuddering millions who were listening, was begging Winston to start slowing.

THE racers carried radio receivers, but no transmitters. If Johnny and Pat heard that broadcast, they gave no heed. For the flame still flared from the rear of their flier.

Had something gone wrong with their ship? Was it out of control? Were they unconscious? Even if they didn't know that every passing minute was lessening their chances of landing on earth, the broadcast should have warned them.

But they didn't slow down.

Tim held his head in his hands. He stared from bloodshot eyes at the

blurred face of the announcer on the video screen, listened to sounds that had lost their meaning to him. He blamed himself for the plight of those two people out there in the madly racing ship. He should have known better than to roar at Pat. That head of red hair should have warned him. But he had been so used to her, and he had been so used to roaring. It was his fault that she was in that ship. If he had reasoned with her, she would have listened. If he only hadn't spanked her.

Four hours after the turn of the moon. Winston's ship was still accelerating and to the impetus of the rockets the deadly downward drag of earth's gravity was being added, increasing the already incredible speed. He had over a two hour lead on the nearest ship and he was still gaining.

It was a lead that would do him no good.

"There is no hope," the earth announcer said, his voice hoarse and husky. "John Winston cannot stop his ship in time to avoid a crash. The full force of his braking rockets applied from now until he reaches earth would be inadequate to do more than slow his fall."

Captain Timothy Wayne walked out into the night. There was a cool breeze blowing. Behind the guard lines an immense throng waited. There was not a whisper from the thousands gathered there. No tiny sound, no noise of any kind. They looked up into the sky. Tim tried to look up into the sky. His head was reeling. He heard the sudden shout from the loudspeaker system.

"Winston had ceased accelerating. He has turned off his stern tubes. He is using his bow tubes as brakings. Apparently he has at last realized the impossible situation facing him and he is making a desperate effort to save himself and his companion. The flare from

his rockets is a continuous discharge—”

Tim heard that much. Then he didn't hear anything. He fainted.

He was out almost an hour. When he recovered consciousness he hunted up a quart of whiskey. It didn't do any good. The hours that followed were one tortured nightmare of hellish sound.

“Winston less than a hundred thousand miles from earth. Using his brakers at full force . . . Slowing . . .”

“Winston fifty thousand miles from earth . . . Speed still too great to stop. He is using his steering tubes in a desperate effort to change his course, but at the speed he is making, they have little effect—”

“Winston out twenty-five thousand miles . . . Firing both his braking and his steering tubes . . . The ship is headed for earth on a long slant!”

Tim held his breath. A long slant. If that slant was flat enough . . .

In less than two hours he would know. If that slant were flat enough . . .

IN an hour and forty five minutes the words coming from the loudspeaker system were drowned in a rising roar coming from the thousands who were still waiting at the port.

“Winston struck the upper atmosphere at an angle which would have forced him to collide with earth. His wings saved him. They did what his steering tubes were not able to do, lifted his nose enough so that instead of striking earth, he is going to miss it . . .”

Tim sighed. He closed his eyes. He sat down on the concrete and muttered nonsense. There was a tumultuous, growling, growing roar somewhere around him, a sound coming from thousands of throats.

Johnny was still going too fast to land. He did the only possible thing, gave his ship the gun for all it was

worth, held it high above earth, in the thin reaches of the stratosphere. When it was under control, he slowly let it drop into the thicker air of the lower reaches, roared in a complete circle of earth to lose his speed, and came down out of the sky at Space Port with a forty-eight hour, twenty-one minute record under his belt—a fool who had miraculously become a hero.

Tim couldn't get close enough to see if there was grease on her face. He couldn't get close enough to speak to her. And when he followed the ambulance that took both of them to the hospital, he couldn't get in. All the doctors would tell him was that they were both alive but so near complete exhaustion that they could see no one—for days.

Seven days later he was in his office. The door opened. He looked up. Johnny Winston stood before him.

Winston looked sick. He was weak and white. Tim looked at him. Then he got up and walked around his desk, holding out his hand. Winston took it.

“I'm congratulating you on a swell job of handling a ship, on setting a new record.”

Tim's voice dropped. “But if you've come here to crow over me, I want to remind you that I still hold the same opinion of you. No man in his right mind would have taken the risks you did. As a daredevil, you're a spectacular success. As a steady, dependable, in any kind of weather pilot, you're hopeless.”

Winston sat down. He almost collapsed.

“I didn't come here to crow over you. I came here to ask you if you're willing to forget my past and let me go back to school?”

Tim could not believe his ears. “What?” he gasped.

"I want to go back to school," Winston repeated.

"But you're a hero," Tim protested. "Right now you're the most famous flier in the system. You can take your pick and choice of almost anything you want." He was beginning to shout.

"I," said Winston quietly, "am the luckiest mortal alive. And I know it."

"What do you mean?"

"I mean this: What you and the world at large thought was reckless courage was something quite different. When I came around the moon, I kept firing my rockets because I didn't know any better. I thought I could stop in plenty of time. Pat tried to tell me I was getting in trouble but I didn't think she knew what she was talking about. I kept driving. When I found out what I was doing, I tried to stop accelerating. I found I couldn't. My controls were jammed wide open and I didn't know how to fix them."

It was very quiet in that office.

"What did you do?"

"I was in a panic. I was going to fire my brakers . . ."

TIM shuddered. Firing the rear and bow tubes at the same time would have squeezed the ship together until it resembled an accordion. Winston saw the shudder.

"Another little thing I didn't know," he said grimly. "Pat saved me. She kept me from firing my brakers while my stern jets were on. Then, to cap the climax, she repaired the jammed controls. I didn't know the first thing about it. I thought all you had to do to fly was to push the proper buttons. She fought those controls for hours, tore her hands, lost the tip of her little

finger, got herself burned. All the time the hammering of those driving charges were smashing at her. But, in spite of everything, she fixed the controls. I flew the ship, she repaired the controls, and you saved both of us from death . . ."

"I?" Tim was dumbfounded.

Winston nodded. "You taught her what to do. I didn't know. And that's why I want to come back to school. The next time I go off the ground I want to know the name of every rivet in the ship, what it's made out of, what it will stand, and why it's there. How about it, Captain? Are you willing to take me back and teach me something?"

"Johnny," Captain Timothy Wayne roared. "You're a student right now. And may I be triply damned if I ever had a better one."

Winston grinned. "Thanks. One other thing. Pat and I had adjoining rooms at the hospital. They let me out today but she's still there. I saw her for a few minutes before I left. She told me to send you over there as fast as you could move."

"Me? You mean she wants to see me?"

"She doesn't want to see anybody else—Hey!"

But Tim was already out the door.

"BUT—but I spanked you," he stutered.

"Tim," she answered. "If I ever so much as look at another rocket ship, I want you to beat me until I'm black and blue all over!"

There was only one thing missing to make his happiness complete. There wasn't any grease on her face.

THE END



THE FATE CHANGER

BY RICHARD O. LEWIS

The machine of Dr. Factsworth revealed the future of Samuel J. Curbul. Would he succeed in changing its course . . . ?

SAMUEL J. CURBUL, broker, let the smoke from his expensive cigar roll upward from his thick lips to drift lazily about his heavy features and to veil his close-set, piggish eyes. The groveling of the man on the opposite side of his large desk inflated his ego in an extremely satisfying manner.

Jamison's pale face was drawn in supplication. "You've got to help me! Don't you understand! I need margin, or I'm cleaned! And you promised. . . ."

"There is nothing I can do for you," repeated Curbul leaning back in his chair.

"But you don't know what this means! After investing my own money, I used all that belonged to Dr. Factsworth, took advantage of my power of attorney. I even mortgaged Dr. Factsworth's laboratory equipment, everything he owned." Angry color was flushing his pale face. "Those stocks were worthless!" he accused. "You knew that when you urged me to buy them, when you promised me riches!"

Curbul leaned forward and made as if to busy himself with certain impor-

tant papers upon his desk. "I can't foretell the future of stocks," he stated flatly.

Jamison sat bewildered for a moment, then he got slowly to his feet and walked dazedly away.

At the door, he turned suddenly. A fanatical light of excitement had leaped into his eyes. He rushed back to the desk. "You say you can't tell the future of the stocks you sell!" His voice was cracked and raspy. "Well, you can! I know a way! I know a way to tell the future of everything!"

"I don't deal with fortune-tellers," Curbul said without bothering to look up from his desk.

"But you won't be dealing with a fortune-teller! You'll be dealing with Dr. Factsworth, the greatest scientist in the world!"

He leaned half across the desk to claim attention. The look in his eyes had changed to a light of craft. "Is it worth a price to you—enough to get me out of town and away from here—to know the future of the stocks you handle? Is it worth, say, five hundred dollars, to know your own future, your every act from this day on?"

"That," said Curbul from around his

cigar "would be worth a price."

"Then it's a deal!" Jamison sank quickly into his chair and began once more to sell out his employer.

As Jamison's story unfolded a light of lust grew in Curbul's piggyish eyes. His thick lips rolled his cigar avidly from one side of his mouth to the other. As he listened, he began to see himself as a great master of finance. No longer would it be necessary for him to prey upon men of Jamison's type. He would have the whole world at his feet with all its fruits piled before him, his every whim and pleasure gratified.

A knowledge of the future of the open market would make him master of Wall Street!

So carried away by his own thoughts was Curbul that he did not notice the hateful leer of vengeance that had spread over the thin face of Jamison as he made his exit from the office, crisp bank notes clutched nervously in his pale fingers.

SAMUEL J. CURBUL sat staring at the strange pieces of laboratory equipment about him. They seemed to be crowding in upon him, prodding silently into the very secrets of his soul.

His eyes turned again to Factsworth who, clothed in a worn smock, leaned easily against one of the work tables. Grey hair rising above the high forehead gave the scientist's face an appearance of abnormal length and intelligence.

"I understand," began Curbul with the usual pomposity he used on inferiors, "that you have a machine here that can tell fortunes."

Factsworth's first frown of perplexity melted as a twinkle of understanding came into his mild, blue eyes. "I have never regarded my light-ray cabinet in just that manner before," he said. "It can, however, search out ac-

curately the future 'world-line' * of any person or object."

"Tell me more," asked Curbul eagerly.

"I have devised a way here in the laboratory to send light-rays past a person or object at a rate of speed many times greater than their normal velocity. In this way, it is quite simple to see the future path or 'world-line' any person or object will follow."

"That's what I want," stated Curbul. "I am a business man, you know. A man of action. And I want to know exactly what I will be doing for the rest of this week."

"And what good will that do you?" inquired Factsworth.

"It will be a great aid in my business. And, of course, I'll pay you a reasonable fee for your services."

"No pay is necessary," said Factsworth. "What I do in this laboratory is strictly in the interest of science. My personal wants are few, and I have sufficient funds to carry on my experiments."

Curbul smiled inwardly. This man, Factsworth, did not know his true financial standing. Time enough to tell him about that after he had proven his value, time enough then to tell the man and make a bargain with him. He made a mental note of the fact that he would have to find out as soon as possible who held the mortgages against Factsworth and when they fell due. He would buy those mortgages, and from then on he would have the man under his thumb to do his bidding.

The scientist was speaking. "I must

* This is the name given by science to the path we all follow through life, in referring to our course in time. If time were reversed, it would be possible to go backward along that path undoing all the things already done. Turn time ahead again and it would be possible to go forward along future world-lines doing exactly the same things done up to the present.—Author.

warn you that knowing your world-line will in no way aid you as a business man, for you cannot step aside from it or change it in any possible way. But, naturally, you have read my full explanation in *The Scientist*. . . ."

"Yes," lied Curbul. That explanation would suffice as well as any for his source of information. "And I'll take my own chances on changing my world-line. I have a strong will." His thick lips curled and he winked knowingly. "I have changed things to suit my needs more than once."

"It would be interesting to science," Factsworth said soberly, "to see you change your world-line."

THE walls of the cabinet-like room were silently black and foreboding as Curbul seated himself in the indicated chair.

"It may take longer than usual," the scientist said before closing the door. "My helper is not here to assist me today. He takes care of all my outside affairs, leaving me a free mind for my experiments."

Twice, the bank of tubes before Curbul throbbed into glowing life, and each time they seemed to send him spinning into some black, bottomless void. Then the door opened and he was assisted back to his chair by the table where he regained his composure.

Factsworth, his lean face strangely grave, seated himself at the opposite side of the table.

"I suppose you found a confusing week of business and finance," interpreted Curbul. "All my weeks are that way—quite confusing to the average mind."

Factsworth looked up slowly from his notes. "You are certain you want to know your future, even if it may prove to be . . . well, not quite as you expected?"

"Yes! Yes, of course!" blustered Curbul. "That's why I came here! And hurry!" He was eager to get back to his office, eager to begin crushing his victims with this new knowledge he was about to gain.

"I went through the experiment twice," Factsworth explained, "and found your world-line coincident in both cases. 'I shall give you your major acts.'"

His eyes returned to his notes. "You leave here in your car for up town in a burst of speed," he read. "At the first traffic light, you are halted by a policeman. You give him a cigar bearing a strange band and hurry away. . . ."

Curbul broke in with a boastful laugh. "That proves you know what you are talking about," he stated. "I carry some cigars with twenty-dollar bills wrapped around them in place of the regular bands. Saves a lot of time and trouble with cops and the like."

"You go to your office," went on Factsworth. "You pace the floor there all afternoon, stopping occasionally to sit at your desk and sign papers."

"That means the market is going to be bearish," said the broker. "I always pace the floor like that when the market is bearish."

He fished a black cigar from his pocket, lit it and leaned back in his chair. "I'll be ready for them this time! They'll get a surprise from Samuel J. Curbul today!" He took the cigar from his thick lips and clutched it in his huge fist. His eyes narrowed to gleaming slits. "I'll smash them! I'll smash them beneath my heel like the weaklings they are!"

The scientist was not impressed. "You go to a dinner this evening where you are called upon to talk. But. . . ."

Curbul broke in again. "That's the Junior Broker's Club. I am the main speaker." His lower lip shot out

tyrannically. "It will be a pleasure talking to them after I smash them!"

"But you have trouble," continued Factsworth. "Words fail you. You stutter, gasp for breath and begin tearing at your collar with your fingers. . . ."

"You're wrong there," shouted Curbul in sudden anger. "I'll have you understand I'm a fine after-dinner speaker! One of the best! Why. . . ."

The scientist hurried along. "You pass a hand to your wet brow, stare about in dumb bewilderment for a moment and then go staggering wildly from the room and into the street. A cruising cab picks you up and speeds away.

"You quit the cab within a few blocks of your apartment and hurry along drunkenly. A news boy on the corner sells you a paper. You jam it angrily and dazedly into your pocket."

Curbul sat staring in open-mouthed amazement.

"At your apartment, you throw the paper on the table, glance quickly about the room and look hurriedly at your watch. Then you begin pacing the floor, smoking one cigar after another.

"You pick up the newspaper at last. Something in it startles you, gives you a severe shock. You stagger to a chair. At exactly 9:47 this evening, you slump awkwardly in the chair and the paper slips from your nerveless fingers."

Curbul tried to wet his loose lips with a dry tongue. "Yes . . . Yes," he whispered. "Go on. What . . . what do I do next?"

Factsworth shook his head slowly as he looked up at the broker. "Nothing," he said. "That is the unfortunate thing. *Your world-line ends there.*"

CURBUL sat silent, his dead cigar dangling from loose lips. Tonight

at 9:47. Tonight!

Suddenly, he lurched to his feet, waved his arms wildly, gasped for air. Angry red flooded his face. "I . . . I won't read that paper!" he shouted. "I won't go near my apartment! I . . . I won't do any of those silly things! I'll show you Samuel J. Curbul has a mind of his own!"

Factsworth placed his notes upon the table before the broker. "Look. I didn't read these first three items to you. I saved them for a purpose."

Curbul bent over the note-book and read.

Laboratory:

Subject sits in chair listening.

Subject jumps up, waves arms, shouts wildly.

Subject reads notes, sinks into chair.

Curbul felt some elemental force evaporate from within him. His knees went weak and he sank down into his chair. He was on a world-line.

The color drained from his face leaving it a pasty blob. "You . . . you've got to save me," he whispered. "I'll give you anything! Money! Power!" He clutched suddenly at his chest. His eyes were strangely bright, bulging. "My heart!" he gasped. "I've been working too hard! Too many cigars! You've got to . . ."

Factsworth was not listening to the blubbling. His alert brain was already racing through a store-house of theories and truths, searching out scientific facts, assembling them into logical sequence.

A light began to glow in his blue eyes, a light of conquest, as his thoughts took definite shape. "Yes, that's it," he said aloud. "Yes. I can do it!"

Curbul heard the hope in the other's voice and clutched it to him as a drowning man would a straw. "You can save

me!" he shouted.

Factsworth arose eagerly from his chair. "A strong gravitational field thrown about you, a gravitational field strong enough to distort the space-time continuum—stop time for you at the exact instant your world-line ends." His eyes glowed brighter still. "Why . . . why, you could start a new world-line, a world-line that was in no way predestined by Fate. That would be of profound interest to science!

"I have the necessary equipment," he finished. "I shall be at your apartment this evening at the proper time—ready."

THE familiar purr of his expensive roadster brought back to Curbul a measure of confidence. He set his heavy foot upon the accelerator in anger. For the interest of science! Using him for a guinea-pig! Bah! Factsworth was a charlatan, a fake! He'd show him that Samuel J. Curbul had a mind of his own! He wouldn't do any of those silly . . .

A traffic light flashed suddenly red before him. He raised his foot from the accelerator and set it down hard upon the brake. The speeding car went screeching half through the intersection, miraculously escaping the heavy stream of cross traffic. An officer blew his whistle and came running.

Curbul felt a chill ague grip him as he swung over to the curb. His hands shook uncontrollably and cold perspiration oozed from his icy forehead.

A moment later an officer stood alone at the curb, a cigar in his hand. Wrapped about the cigar was a twenty-dollar bill.

Curbul arriving at his office paced the floor. The incident at the intersection had unnerved him completely. Everything—the light, the officer, the cigar—everything just as Factsworth

had said.

He felt as if he were being held prisoner upon a narrow path. The walls of the room were smothering him. He had to get away from it all. He would show Factsworth! He wouldn't stay in the office. He would leave!

But at the door, a new thought struck him. Factsworth was bankrupt. He, Curbul, had helped to bankrupt him. Now he must repay Factsworth, the man who was going to save him.

Cursing the day he had sold Jamison those first worthless stocks, he hurried to his desk and made out a check to Dr. Factsworth for a large sum. Then he tore it into bits. No sense in wasting money like that.

Five minutes later he was back at his desk again making out another check to Factsworth for twice the amount of the first one. Factsworth had said he would sign papers . . .

He sat staring at the check. No, he couldn't send it now. It might make the man suspicious. It wouldn't do for him to find out. . . .

He went to his safe and placed the check within. There, that was as good as sending it. It showed his intentions.

But even as he closed the steel door, another thought was creeping like an evil maggot through his brain. Later on, it would be a simple matter to . . . well, to lose this second check and keep Factsworth under his thumb.

Several times he awakened from trance-like stupors to find himself pacing the floor. Once, he thought of the speech. There was a place to trip up Factsworth, to prove him wrong! He wouldn't fumble that speech! He would cut it down, shorten it, memorize it! He would show Factsworth yet!

THE food before him was untouched. Curbul sat there looking blankly at

the faces about the other tables. What was the matter with them? Why were they so silent? Why did they stare at him like that? The fools!

His gaze traveled slowly from one face to another. Yes, they were all staring at him, staring silently, staring . . .

He became conscious of the man at his left poking him with an elbow, whispering something to him.

Oh, yes. The speech! That was why they waited. Someone must have announced him.

He clutched the table with trembling hands and pushed himself awkwardly to his feet. The faces—hazy, luminous blobs in the film of smoke—were ebbing and flowing in a nauseating manner. He gripped the table harder, tried to swallow. He would show Factsworth now!

"Gentlemen!"

The word cracked from his constricted throat in a hideous, high-pitched croak.

Someone tittered.

The fools! They were laughing at him, laughing at Samuel J. Curbul who had been their master more than once!

"G-g-gentlemen . . ."

A sudden palsy had gripped his throat. He went quivery inside. *Factsworth had said he would stutter!*

The faces were not laughing now. They were grave and bewildered.

"I . . ."

His numb fingers tore at the collar that was choking him. Perspiration stood out on his face. He tried to wipe it away with a trembling hand.

The room wheeled sickeningly. The bodiless faces were rushing toward him, trying to smother him. He had to get away from them. Get away . . .

The crash of the chair behind him as he pushed himself away from the table only added to the confusion that

was already pounding at his brain. Then he was running, running wildly from the room.

CURBUL cringed in the corner of the cab like a frightened animal. A piece of torn collar was still clutched in his hand. Colored neon signs were flashing past, car lights stabbed and darted at the windows in panoramic confusion. He felt that he was going mad, felt that he was being held imprisoned upon a narrow path that was hurling him on . . . on . . . on to his destruction.

He couldn't stand to let himself be swept along this way! It had to stop! The walls of the cab were crushing in upon him, smothering him.

The driver was startled by the mad pounding on the glass at his back. He drew quickly to the curb. These drunks! They never knew what they wanted. But they paid well.

Curbul reached the door of his apartment. His face was livid and he was panting heavily from the flight of stairs and the several blocks he had traversed. He stood for a moment trying to quell the mad pounding of his heart, struggling to regain a measure of composure. Factsworth would be there. Factsworth would save him.

He flung open the door and switched on the lights. Then he stood there gasping. The table was there. And the chair. But there was no electrical equipment back of the chair. No equipment anywhere in the room. No Factsworth!

He staggered into the room, reeled drunkenly against the mahogany table. Where was Factsworth? Had the man failed him? Cold fingers of fear were chilling him. He looked quickly at his watch.

9:32. Fifteen minutes left. Factsworth still had time.

Something was pressing against his side, something in his pocket. He knew before he drew forth that it would be the newspaper. He had a dim remembrance of the boy on the corner rushing out of the dark, thrusting a paper at him.

He threw it angrily upon the table and pushed himself back from it. No! He wouldn't read it! Nothing on earth could make him read that paper!

He fumbled a cigar from his pocket, lit it and began nervously pacing the room, struggling to keep his eyes from the paper. Where was Factsworth? Why didn't the man come?

The cigar was tasteless in his sagging lips. He flung it from him, consulted his watch again. Eleven minutes left. Why didn't the man hurry?

He was not conscious of lighting the next cigar or of pacing the room again. He was conscious only of a hammering in his tortured brain. Factsworth! Factsworth! The words echoed from a great void about him. Factsworth! No, it was not an echo. It was the pounding of his own heart. His heart! Pounding! Pounding! Pounding away the seconds between him and eternity!

Time was racing now, racing along with that awful hammering of his heart. As if in throes of a hideous nightmare, he was staggering drunkenly about the room, smoking one cigar after another, peering for long intervals at his watch. Six minutes left. Five. Where was Factsworth?

He found himself standing by the

table, staring at the newspaper upon it. Something in the paper was swimming up at him, trying to make itself known to his seething brain.

No! He . . . he wouldn't read it! He couldn't stand this any longer. He would leave the apartment! He wouldn't wait for Factsworth!

But, even as he reached the door, he turned. Something had found its way into his brain, something the newspaper had said. What was it? Something about—

Slowly, leaden feet dragged him back toward it. His eyes were focused upon its up-turned page. The paper trembled in his fingers as he picked it up, blurred before glazed eyes.

Certain words and half sentences there burst into his throbbing brain and left his whole body quaking and pounding.

"Factsworth . . . taken into custody by the police . . . trying to make away with equipment from his laboratory . . . attached for debt late this afternoon. Factsworth, claiming life and death matter. . . ."

He would have fallen had not the chair been within reach. He slumped into it. He had ruined Factsworth! He should have sent that check! They would find it in the safe in the morning. It would repay Factsworth too late. . . .

The awful pounding ceased abruptly. The newspaper slid to the floor from nerveless fingers.

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She was an amazing mystery, this golden Jalu, and to touch her was utter pain, but John Kalen followed her into a country of miracles where he was ruler.

3. CITY UNDER THE SEA

By NAT SCHACHNER

The giant ocean liner sank like lead, her bottom ripped out as though by a giant claw, and down into the depths went two men, to face the impossible.

4. THE AMAZING INVENTION OF WILBERFORCE WEEMS

By NELSON S. BOND

Wilberforce Weems couldn't concentrate with a four-year-old youngster bent on mischief, but then he tasted the concoction he had invented to humor the child. . . .

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He could see perfectly, but he saw too late! And that was worse than being blind . . . especially since the lives of a polar expedition depended on his sight.

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DISCUSSIONS



AMAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brick-bats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get in with the gang and have your say.

ON TO THE SUPREME COURT!

Sirs:

Don't you think it was a dirty trick to leave Adam Link facing death in that inhuman way?

I'd like to see him released, and have a career worthy of him. Carry the trial on up to the Supreme Court—he will be vindicated.

(Mrs.) Lovina S. Robson,
Postmaster,
Lysite, Wyoming.

- Eando Binder, take notice!—Ed.

FROM AUSTRALIA

Sirs:

Since you took over Dr. Sloane's job, AMAZING STORIES has been different—it has degenerated.

- (1) Why did you sack Morey?
- (2) What made you get rid of the good old "Comet tail"?
- (3) Why weren't the readers warned in the April, 1938, issue?

The best yarn in the March issue was "The Raid from Mars." But now for the real purpose of this letter. Bill Veney of 11a Lawson St., Paddington, Sydney, etc., will soon release a science-fiction fan magazine. (Australia's First.) It will be called "Australian Fan News," with about 12 pages. It will cost 10 cents or 6d. (Overseas readers should send International Reply Coupon) and will be sent postfree to anywhere.

Eric Russell J.A.S.F.C.C.
274 Edgcliff Rd.
Woollahra, Sydney, N.S.W.
Australia

- (1) We didn't.
- (2) Legibility. The new title is more distinguishable on the newsstands.
- (3) We didn't know ourselves.—Ed.

COVERS FOR FRAMING

Sirs:

I'm fully behind the movement for having back covers on AMAZING STORIES suitable for framing.

As an old reader of our magazine, I favor rather strict adherence to scientific principles in the stories.

Frank Lincoln,
1514 O'Farrell,
San Francisco,
May 7, '39.

- We haven't the response necessary to put out back covers without title or reading matter to describe them. But we'll compromise, by trying to arrange them whenever possible, so that type and title can be cut off, and the remaining picture made suitable for framing by those fans who desire to do so. But as for the majority of our readers, we are certain that they would be at a loss as to the significance of our back covers, if no description of them was given. Even you fans who frame them, what question do you think a stranger to science fiction would ask upon entering your study and seeing a back cover framed? Wouldn't he ask: "But what is it?"—Ed.

ANSWER TO SCIENCE CRITIC

Sir:

I note in your Discussions column of the July issue, a letter from a reader questioning the existence of explosive antimony, mentioned in my story "Foreign Legion of Mars." In stating that this compound does not exist, the reader quotes as an authority his instructor in chemistry.

For the benefit of the reader, and his instructor, I quote from page 655 of Foster's "Inorganic Chemistry for Colleges."

"Antimony has allotropic forms, the most peculiar and interesting of which is 'explosive antimony'; it may be obtained by the electrolysis of a solution of antimony trichloride. When this form of antimony is heated to 200 degrees, it explodes sharply, forming a fine powder; it also breaks down when scratched with a metallic point or when touched with a red-hot wire."

Latimer and Hildebrand's "Reference Book of Inorganic Chemistry," on page 169 gives the same information which I refrain from quoting since it is merely a repetition of the above.

If neither of these works are available I refer those interested to any standard text book or encyclopedia.

In closing I may say that I have often performed this experiment in my home laboratory. It is not a difficult one, and quite interesting. Care should be taken, however, to prevent particles of the exploding antimony from lodging in the eyes.

Trusting this will clear up the matter of antimony's metastable metallic modifications, I am,

Frederic Arnold Kummer, Jr.
Baltimore, Md.

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SORRY—IT WON'T HAPPEN AGAIN

Sirs:

Robert Fuqua's illustrations of "Secret of the Pyramid," in the July issue are perfect examples of inaccuracy. Unless he really exerted himself in that direction I cannot understand how he could possibly attain such a high score in blunders.

The Zorlock figure is not in the least degree as the author depicts it. Probably Fuqua has a distaste for baldness. The Egyptian background is wrong. On page 10 it plainly states that they did not build the pyramid. The gun, which was Wade's is an automatic, not the specialized weapon drawn by Fuqua. The kneeling man was shot in the forehead in the story. Ob dear, oh dear—

I read a tale ripping, exceedingly gripping,
 Then glance at the pictures and see—
 That double-faced traitor, a bum illustrator
 Has spoiled my illusions for me!

I long to berate him, to eviscerate him!
 For failing the details to heed.
 To do illustrating that's corroborating
 An artist should learn how to read.

Mrs. A. J. Blencoe,
 228 Logan Ave.,
 Geneva, Ill.

COVERS SHOULD LOOK SCIENTIFIC

Sirs:

Let me compliment you on the latest issue of **AMAZING**. I haven't finished all the stories, but I think the best one of the group I've read was *The Trial of Adam Link, Robot. Pe-Ra, Daughter of the Sun*, was second best, but I believe that it belonged in *Fantastic Adventures*. I just bought the second issue today and read your new policy. I understand you will lean more toward adventure stories and that is what the story I mentioned above is.

Whenever I pick up **AMAZING STORIES** at the newsstand, I have a tendency to hide the cover. Not that Fuqua isn't a good artist. He is. But the covers seem to be a bit too garish for the best scientific mag on the market. I realize that the cover must attract attention to sell itself, but does it have to be nightmarish? For instance, the cover on the July issue. It gives the magazine the appearance of a ten cent adventure magazine. The mag is science fiction and should look scientific on the cover. I believe that is what made *Morey* so popular and is what he excelled in. Your back covers are the best illustrations in the magazine. Krupa's illustration of the *Space Devastator* was magnificent. Let's have more machines on the front cover.

Bob Ostermann
 535 N. Waiala Ave.
 La Grange Pk., Ill.

● We think the July issue was well balanced as to covers. We had an action scene (and it was

scientific) on the front cover, and a strictly scientific machine scene on the back cover. This should satisfy all our readers. As to the nightmarish element, we hadn't considered this particular cover to be thus. How would we present any other-world creature on the cover if we followed that maxim? Anything other than machinery or human beings would be "nightmarish."—Ed.

"ART"

Sirs:

So at long last the secret is out; you're using posters on the covers! But how about this? Why not use attractive posters, at least? Why, I've seen bill-boards that were prettier than some of your covers. As for your contention that pulp magazines never use *art*—just examine any of Charles Schneeman's work, drawing the logical conclusion therefrom.

And there is absolutely no excuse for garishness on the back! Krupa is rather good with color, and the idea is exceedingly nifty. Here's an earnest request—*please* eliminate the printed text from the picture, leaving it for the inside where it belongs. Just set up a neat title and let it go at that. Then, in case an exceptionally good one comes along, it could be clipped off and framed. You should use MacCauley much more often than you do, by the way, his *January Rocket Train* was really good, although not from a scientific standpoint. And why not get some work from *artists* occasionally, such as Schneeman, Graves Gladney, Howard Brown, and others who do good work?

This month there were two rather good stories, same being "The Trial of Adam Link, Robot" and "When Time Stood Still." The former is slightly the better, I guess, being the more thought-provoking. Maybe someday we'll find out if it's true, and I certainly hope not. Fuqua's illustrations are splendid.

Mr. Hamilton is right about authors. Let's have something from Stuart, Smith, de Camp, et al.

I demand TRIMMED EDGES!

R. J. J.
239 W. State St.
Barberton, Ohio

● What do you think of the cover this month? And next month we may have a cover by MacCauley which we believe will earn your definition as "art." This cover discussion is certainly bringing in hundreds of letters, and it makes our problem in making up "Discussions" rather tough. So many letters saying the same things. We present yours and two others as indicative of the trends to both sides.—Ed.

Sirs:

The cover for the July issue was superb. Fuqua is your best artist; keep him.

"The Secret of The Pyramid," was by far the best story in the July issue of AMAZING STORIES. The second best was "When Time Stood Still;"

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both of these stories had entirely new themes and that is what this magazine needs most. In my opinion this magazine is the best of its kind on the market today.

*Richard Gardner,
 212 Second Street,
 Elyria, Ohio.*

● Here's another opinion. "The July cover was superb." All we can say, readers, is that we'll give all of you a break, and try to get poster, art, science, action, and significance into our covers at various times.—Ed.

"IT TAKES ALL KINDS . . ."

Sirs:

How about letting a few of us science-fiction fans up here in Canada put in a word or two? Why the reticence my Canadian brethren? Let's show them we appreciate a good s-f yarn as well as the next one. After all, good old AMAZING STORIES does merit an orchid now and then, and even criticisms are better than nothing at all.

Speaking of bouquets and brick-bats, I have just finished plowing through the "Discussions" column and my head is still whirling trying to digest some of the likes and dislikes, the pros and cons for this and that; shall we have short stories or long ones, romance and adventure or stories strictly scientific, etc., etc. It brings to mind the old phrase, "It takes . . ." but you know the rest. Anyway, just where would progress be if everyone was satisfied with everything all the time?

I sometimes wonder if, amidst all this ballyhoo about Martians and ray-guns, some of us don't lose sight of what science-fiction is really supposed to be. Is it nothing more nor less than a "pack of lies" as some "pulp-readers" would have us believe? A glance at the attempts of the funnies and the movies to capitalize on this "futuristic" literature would appear to justify such an attitude. Nevertheless, I'm sure that true s-f fans will back me up when I assert that there is something about this appealing fiction which lifts one's thoughts up from this humdrum existence and shows up the basic fundamentals of this social system created by Man, its defects and their possible solutions. We all admit that the imaginations of our authors sometimes carry them out of the realm of possibility, yet is it for us to say that their ideas are absolutely fantastic? Practically speaking, nothing is impossible or even supernatural, such only appears to be the case for the simple reason that our present scientific knowledge does not permit us to grasp the essential details involved.

*Eugene Denton
 358½ Morris St.
 Halifax, Nova Scotia, Can.*

● We've had that old phrase in mind a long time. We've presented a wide variety of yarns. Action: "Pe-Ra, Daughter of the Sun." Mystery: "Secret of the Ring." Off-trail: "The Man Who Walked Through Mirrors." Fantasy:

"When Time Stood Still." Significance: "Battle in the Dawn," and "I, Robot." We could go on and list many more which seem to prove we are covering the field in our effort to introduce variety and give our readers something to "lift up their thoughts" from a humdrum world.—Ed.

AN APPEAL

Sirs:

Let me appeal for the publication of Stanley Weinbaum's "New Adam." After all "Battle in the Dawn" was strictly speaking not S. F. but it was a very fine tale which went down well with the rank and file of the readers. Perhaps as you say it is above pulp standards. Well, all the more reason for printing it.

The photos of the authors is a welcome new feature, the covers are getting better, and the "Future" features on the backs are unique. What's happened to Manning and Sonnerman, don't they write any more? How about Olson, Keller, Corbett and Wandrei, some time soon? Krupa and Fuqua learning fast. . . . Paul, Wesso, Dold and Co., better watch out!! Don't cut down on Discussions. This is most interesting part of S. F. Magazines. Let us see the other chap's point of view. The world can do with plenty of this at the moment or "Europe go bang"!!! Wonder when you are going to trim those edges? It don't matter really as far as reading is concerned, but when we fans file or bind our selections it looks and sets better on the shelves of our bookcases.

Herbert Vincent Ross,
71, Harley Street,
London, W. 1, England

● Watch for an announcement concerning the publication of "New Adam" very soon. Those authors you mention; how about it, you fellows? Get the old typewriters out. About those edges. When copies are bound, they are generally trimmed again, and if trimmed twice, your book will find itself with some of the copy cut off. You're arguing against yourself there.—Ed.

MORE PHOTO COVERS

Sirs:

When I started reading Stf. back in '31 I bought the magazine which seemed most exciting because of its bright color. I read the smother covered magazines occasionally but I never felt very interested in picking them up—they seemed so drab.

More photo covers, please! Let an artist paint in a mechanical background, but I think there are plenty of present day machines you could use just as easily—most artists draw no more wonderful machines than dynamos or pumps. I was pleased to see Morey in *AMAZING* again. And why not reproduce all of your illustrations in the hundred (?) line screen as you did those for "Daughter of the Sun"? It gives such a smooth effect and the picture is so clear.

Did the editors ever read *Frankenstein*? It is told in part from the viewpoint of the monster and the reader finds that the creation of *Frankenstein* was in reality kind and generous. He

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loved flowers and music and rescued a small girl from drowning. He was shot by the child's father. Because his creator had left him alone and defenseless in a hostile world he came to hate him. He never killed anyone but the friends and relatives of his maker. At the end of the story he kills himself in remorse. Binder's *Adam Link* is the only true frankensteinian monster I have seen in any Stf. mag.

James Michael Rogers, II,
2006 Court Street,
Muskogee, Oklahoma.

● Morey's illustrations were not 100 line screen. They were straight zincs just as all our illustrations are. It is Morey's individual style of illustrating which results in the smooth effect.—Ed.

ABOUT OUR STORY POLICY

Sirs:

As a sort of self-appointed "your Majesty's loyal opposition," I would like to take up issue with you. In the note to my letter you said, "We demand . . . action, suspense, characterization, plot. . . ." Well, you do have action. Mr. Sandlin's letter about his six-year-old son expresses my opinion on that better than I could. And suspense—well, maybe; it occurs in a fair percentage of your stories. But characterization—! The best bit of that that you've had occurred in the story of the robot, *Adam Link*—

and he wasn't even human!

Most of your heroes aren't characters; they're just supermen with ideals acting in given situations as anyone else would; there's little unique about them; they're just colorless, and the stories concern themselves mainly with the actions, or the obvious motives, of these men.

Take our friend Hale, the scientific sleuth, for instance. He could be interchanged with most of the heroes in the other stories, and no one would know the difference—they all do the same things. (Now, don't say that in such-and-such a yarn the hero was excellently depicted; hence you do have characterization.) The citing of isolated examples cannot be enlarged to a generality concerning the majority of stories. Your last mentioned requirement was plot. But there is a peculiar sameness about most of your stories; the difference lies in the "scientific" notion. The author has a brainwave, and gets the idea for instance, that if some electricity were shot through some miraculous substance, something strange would occur. Ah! A new plot! So he takes the hero, and he takes the girl, and he takes some inimical force, adds a lot of action, changing the details to fit the situations demanded by the new invention, and we have a "new" story. Or perhaps we have the Hale-type story, minus girl. Or it may be an adventure story pure and simple—such as *Pe-Ra, Daughter of the Sun*. Most of the stories, I believe, fall into these classifications.

Now for the stories in the July issue. *Secret of the Pyramid*—just another, a hit better than the average, maybe. *Adam Link*—Binder merely amplified what he had to say in his first story, but added nothing more; a bit superfluous, but good, if there hadn't been a preceding story about the same character. *Pe-Ra*—rather childish; very little to it; poorly written. *When Time Stood Still*—best story, not because of the originality, but because of the writing and treatment of characters (one of the exceptions to my above statement about characterization). *John Hale Confronts a Killer*—mediocre. *Pit of Death*—second best; not bad; fairly good treatment.

This criticism has been intended as constructive, and I hope it helps in some way. Thanks, Mr. Editor, for your definite statement of your policy; and I hope we can resolve our differences. I wouldn't be so severe if I weren't interested in the magazine.

Ralph C. Hamilton,
846 College Ave.,
Wooster, Ohio.

● You say our heroes act just "as anyone else would." There's a point that's darn good. We want natural characters. Someone you can believe in. Who act just as normal people would, not as those supermen you hate. Your remarks about how some authors arrive at a "plot" is good. It is just what we don't want. Authors, take heed. Perhaps eventually, with constructive letters like this, we'll have all our authors writ-

ing the kind of story the reader wants. We believe, however, that with this and coming issues, you'll begin to see results of our "policy," and your comments.—Ed.

ATTENTION, RADIO HAM!

Sirs:

Hey, Hams, let's crack down and get the F. C. C. on this amateur Fredric Arnold Kummer, Jr., who wrote "The Deadly Slime" in the June *AMAZING STORIES*.

"Wait a minute, W3XE! Well, I'll be damned!" quote from Kummer. This ham of Kummer's, W6QNE, would sure have enough sense not to use such language on a ham rig, for it is strictly against F. C. C. regs.

What do you say, hams and SWLS, shall we let him get away with it?

Ralph Williams,
W11H73
Radio Signal Survey League,
107 Wayne St.
Valparaiso, Ind.

● No, you hams, you haven't let Mr. Kummer (nor your editor!) get away with it! We both bow in shame, and promise it won't happen again. But we are pleased to see that *AMAZING* is read by radio hams. That's a real compliment. Thanks, Ralph. We'll watch this in the future.—Ed.

LAID HIM LOW!

Sirs:

Your July issue laid me low! Ye gods, it has happened! You are improving a little hit, aren't you? Slowly but surely you're coming back up the ladder from kiddie's tales to something vaguely interesting. Last month, after seeing the June issue, I spent two weeks in bed recuperating from the illustrations alone, but this time, what have we? More! Not much improvement, but at least he's a hundred per cent better than Krupa and Fuqua, those two clever juveniles who draw on wall paper from old pictures of Flash Gordon! But! One moment, I was wrong . . . Fuqua is improving also. His illustrations for "Secret of the Pyramid" are excellent. Especially the one on page 25. He's actually drawing instead of cartooning, at last! Let's have more like this, and more of Morey! How about getting Elliot Dold? Or is that asking for something too high class?

The cover is one of the best in recent issues except for that queer little bugger squatting there with a fizzle-gun in his bony paws! And the back cover? Well, that was good, too, I'm sorry to admit. Gosh, but it's awful to have to say that *AMAZING* is improving. For a year now it has been my favorite science-fiction gripe! Keep it up! Give me a good shock with each issue from now on, and pretty soon you'll reach the top!

Ray D. Bradbury,
Los Angeles, S.F.L.
Los Angeles, Calif.

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MONTHLY MERIT AWARD

OUR \$50.00 prize goes this month to Eando Binder for his excellent story, "The Trial of Adam Link, Robot," in our July issue. Congratulations Mr. Binder! The voting results follow:

<i>Title</i>	<i>Author</i>	<i>Votes</i>	<i>Rating</i>
1. Trial of Adam Link, Robot	Eando Binder	1,331	.74
2. Secret of the Pyramid	Robert Moore Williams	1,791	.71
3. The Pit of Death	Don Wilcox	1,683	.66
4. When Time Stood Still	Edwin K. Sloat	1,314	.74
5. Pe-Ra, Daughter of the Sun	Ralph Milne Farley	1,296	.51
6. John Hale Convicts a Killer	Ed Earl Repp	1,026	.40

Use the coupon below to vote on the stories in this issue, and don't forget that from now on, the reader coming closest to the final line-up in his vote, and writing the best letter of 20 words or more on why the story named as number 1 was best, will receive \$10.00 also.

AMAZING STORIES, 608 S. Dearborn St., Chicago, Ill.

In my opinion the stories in the September issue of AMAZING STORIES rank as follows:

	No. Here
BEAST OF THE ISLAND by Alexander M. Phillips
THE UNDERGROUND CITY by Bertrand L. Shurtleff
WHEN THE MOON DIED by Don Wilcox
FACE IN THE SKY by Thornton Ayre
ROCKET RACE TO LUNA by Robert Moore Williams
THE FATE CHANGER by Richard O. Lewis

Enclosed is my letter of 20 words or more giving my reason for selecting story number one for that position. ☐ Check here.

NAME

ADDRESS

CITY STATE

Science Quiz

SELECTION TEST

1. The highest tide in the world is at: New York, Calais, Port Said, Bay of Fundy, San Francisco, Yokohama.
2. When you are a collector of old coins you are known as a: dilettante, numismatist, philatelist, mesmerist, polygamist.
3. The expansive force exerted at the moment of freezing of water is: 50 ft. per sq. in., 100 ft. per sq. in., 1000 ft. per sq. in., 20,000 ft. per sq. in., 30,000 ft. per sq. ft., 500 ft. per sq. in.
4. The Scientific name used to determine the period of animal existence is: Paleontology, physiology, psychology, geology, mythology.
5. The name of the test to tell whether milk had been watered is called the: Shicktest, Babcock, Wassermann.
6. The planet Neptune goes around the sun in: 225 days, 687 days, 11 years, 165 years, 5 years, 365 days.
7. The man who first calculated the distance around the Earth was: Columbus, Eratosthenes, Hippocrates, Magellan, Maimonides.
8. The first Astronomer in the United States was: Rittenhouse, Newton, Merrill, Putnam, Lowell.
9. The man who devised the Periodic law of Chemistry was: Coster, Mendeleev, Hevesy, Burgess, Berzelius.
10. The hardest element or ore next to the diamond is: Corundum, Copper, Ambergis, Beauxite, Gold, Silver.
11. The mountains which are believed to be one of the oldest ranges in the World are the: Pyrenees, Rocky, Ozark, Andes, Ural, Appalachian.
12. The name given to the groove between the nose and mouth is: filtrum, femur, pituitary gland, ductless gland, lip.
13. If a flea were the size of a man he could jump: 100 ft., 500 ft., 1000 ft., 2640 ft., 5000 ft., 5280 ft., 10 ft., 25 ft.
14. The weight of a body compared with the weight of the same volume of water is called: specific gravity, potential energy, expansive force, kinetic energy, magnus theory.
15. The florentine experiment was the test to see whether or not: steel could be magnetized, water was compressible, sound could be measured, if a gyroscope was the fastest turning wheel.

TRUE OR FALSE?

1. Camphor comes from Pine trees. True.... False....
2. A stereoscope has one eyeglass. True.... False....

3. A Rara Avis is a precious stone. True.... False....
4. It is impossible to take a picture through a microscope. True.... False....
5. Gasoline and Kerosene have M chemical formulæ. True.... False....
6. There are more than two billion pores in the human body. True.... False....
7. Asbestos is mined. True.... False....
8. The wave length of the average human voice is 8 feet. True.... False....
9. Ordinary photographer's hypo is used to make artificial ice. True.... False....
10. A ship cannot be held in the weed entanglement of the Sargasso Sea. True.... False....
11. There are five primary emotions. True.... False....
12. Heat rays can be reflected with a mirror the same as light rays. True.... False....
13. Anything dropped from a height is called
14. Light is defined as radiant energy. True.... False....
15. Fastening a radio antenna to the top of a tree will harm it. True.... False....

SCRAMBLED SCIENCE TERMS

1. A constellation. QUARAIUS _____
2. An animal. PROCUINEP _____
3. An instrument used by doctors. TESOTHCOPSE _____
4. A valuable gem. MAREDEL _____
5. A heavy metal. TETUNGSN _____

DO YOU KNOW

1. How many layers science says there are in the atmosphere?
2. How cosmic rays were discovered?
3. Who Fedoseyenko, Vasenko, and Ousyskin were, and what they did?
4. What happens to the "blue" of the sky when ascent is made into the stratosphere?
5. Whether or not it is possible for life spores to remain alive in the stratosphere?
6. What branch of mechanical science treats with the motion of bodies and the laws of the forces which produce it?
7. What happens to the sunlight when it is reflected from the moon?
8. What the symbol H₂O means?
9. Why helium gas is preferable for use in balloons and dirigibles?
10. Whether or not diamonds can be produced artificially?

(Answers on Page 146)

ARCTIC Radio Farms

Our back cover this month depicts artist Julian S. Krupa's conception of the radio farm of the future, built in Antarctica.

Today one of the great problems, and a cause of much social unrest, is the crowded conditions of certain countries. It is a problem that must be solved, in one manner or another. Because if it is not, it is quite possible that much havoc will be done to civilization because of war.

On earth there are many great areas where there are no people. And there is no means of making them suitable to human occupation, because of the very nature of the climate, and the geography.

However, recent discoveries in science are pointing the way toward utilization of one of these great waste areas of the planet. This area is the polar region, especially that of the South Pole, and the continent known as Antarctica.

At the New York World's Fair there is to be seen a future farm, controlled entirely by radio. Radio beams direct every activity from sowing to shipping. This radio farm is essentially one of mechanical perfection, and does not solve the question of making arctic regions fertile, but it does utilize a means which can be turned to this purpose. That means is radio frequency waves.

It has been discovered that radio frequency vibrations have an effect on vegetable growths, tending to speed up the period of development, and produce a much better grade of fruit or grain. These frequency treated fruits also are much superior in flavor to fruit allowed to grow in the normal manner.

But the prime use of radio frequency waves is in the new possibility that they may be used to melt ice, and to produce heat within a circumscribed area, perfectly controllable from broadcast towers judiciously placed.

When radio waves of extremely high frequency are trained on an area of ice, something happens, perhaps very similar to the effect of x-rays on certain crystalline structures. There occurs a molecular breakdown which tends to release heat in the process, causing a melting of the surrounding ice particles.

As yet, this means of melting ice is a laboratory stunt, and requires an enormous amount of power, and produces a result which is certainly not sufficient to enable such fertile valleys as the one pictured on our back cover to be created. However, it is a start, and an indication that it is entirely possible in the future.

Antarctica is a continent as large as North America, and it is believed that it is extremely well provided, beneath its surface, by huge deposits of mineral wealth and oil fields.

Oil is the greatest item of importance to modern civilization, because of its value to mechanical science, and further, because its presence would mean the possibility of aiding the radio frequency towers in their task of melting still further areas of ice by providing the means of more power.

We can picture this community of the future, flourishing in its tiny depression amidst impenetrable wastes of ice, reached only by air, subsisting entirely by itself, in a climate possibly to be considered quite sturdy by dwellers in tropic lands, but still livable by reason of the beneficial effect of radio frequency waves on the growth of vegetable matter.

Over this area it would seem a matter of wonder to the visitor to see what amounts to a perpetual cloudy condition, but literally, this would be nothing but a cloud of steam, caused by the rapid condensation of rising heated air from the valley floor. Thus, it would be a valley of much rain, although not of a precipitous nature, but perhaps only as a form of rather heavy dew, and gently drifting mists.

It is certain that the area would be one of sometimes wild, shifting winds, and minor storm areas might sweep up and down the valley on a midget scale.

These storms would not be dangerous, and would in fact be considered as no more than squalls. On days when no arctic wind disturbed the wastes of the polar lands, which is often the case, the valley would be a calm, quiet place, protected from heat loss by the hovering blanket of mist.

During the long daylight periods of the year, magnificent spectacles would result both from the light of the sun on this hovering cloud, and from the aurora. In winter, the aurora would provide a lighting system in brilliant color that would outdo any artificial lighting system of civilization.

Technically, there would be no winter in this radio frequency valley of the future. The climate would be one of great stability, and harvest time would exist throughout the year. Storage facilities for all goods would be excellent, nature herself providing the most efficient of refrigerators.

Radio engineers are working on the problems of radio frequency waves, trying to adapt them to the many uses they suggest. This is just one of them, and we treat it here in a purely speculative sense. However, it is not impossible, by far, and we may yet see the flowering of the arctic.

When the Moon Died (Continued from Page 88)

"You've made it!" he shouted. "You've just made it."

So this was Mars. Sometime in those flashing seconds just passed, they had come through. They breathed again.

A moment later they were on the unloading platform listening to a blow by blow radio account of the Earth's catastrophe as it was being witnessed by astronomers on Mars. A spectacle in the distant heavens.

The procession of radio transit cars

Face in the Sky (Continued from Page 110)

scientist.

"Say, maybe we've both been wrong!" he cried. "Why bother with radio? In one of your treatises you suggested signs— Well, why not? Fire a sign of barium cyanide into space and activate it with X-rays! That will surely attract a Martian or Venusian?"

Carter snapped his fingers. "You've

brought forth only two more objects that had jumped the sea of space before the Earth's giant transmitter was struck dead. They were an unpleasant sight; nevertheless, both Vivian and Ray experienced a curious feeling of relief at their appearance. One was the top half of a fine motor car—sheared off clean. The other was the upper half of the body of Damon D. Sheebler—stone dead.

Ray looked down into the face of the lovely girl in his arms. There was no fear in her eyes now—only joy and hope and pride.

hit it! It never even occurred to me."

"Then the Face has served a useful purpose after all," said Walters, smiling. "And the rest of the world will never know what has taken place in this shack tonight. As to you, Stu, I want you to come back to the Observatory as chief astronomer and—"

He stopped, coughing slightly.

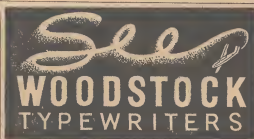
For Stu had not even been listening. Neither had Jane. They were enfolded in each others' arms.

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Meet the Authors

THORNTON AYRE
FACE IN THE SKY

THIRTY-FOUR years ago there were strange lights in the sky over the Cumberland Hills, reflecting the waters of the Lake District. The world was hushed for a while—and Thornton Ayre was born. But don't pay any attention to the lights in the sky; the stars still come out anyway.

Which is another way of saying that I am a Cumbrian, which explains my mad passion for the English Lakes, a particularly powerful pipe, a love of fantastic things, and a hatred for company. Call me a hermit if you like, but I get more kick out of walking miles alone in drizzling rain than all your parties, conventions, and get-togethers.

Five feet nine in height and thin as a plank, unruly haired and lost without glasses, I've been called plenty of things in my time. Maybe you can guess what those things were from my photograph—which is another thing I loathe having taken. I can't tame my hair, and I finish up looking like a cross between Adolf Hitler and James Maxton. For the former reason I changed my moustache to a long one instead of a tooth-brush.

Well, that's enough of me—too much probably. Now to say a word on this science fiction racket. It all started about two years ago when I was getting pretty fed up with poor returns from occasional articles and short straight yarns in England. You see, the trouble over here is they don't

Author of

like anything sensational, or off the beaten track. At least, they didn't *then*! But times are changed.

As I was saying, I was getting fed up when my closest friend, the redoubtable dynamo known as Fearn, slanted my ideas towards science fiction. I'd read several odd tons of the stuff and I must confess it had appealed to me quite a lot. I thought there was nothing to lose by having a shot at it—but oh! those first efforts were pretty awful. My brains, what there are of them, revolved around queer asteroids, men down in the

sea, talking protoplasm, and other things usually associated with over-indulgence in opium or heavy cheese late at night.

About that time Stanley G. Weinbaum was at his peak. Everybody was nuts about his particular slant and so, being a trier, I imitated his style and produced *Jo, the ammonia man, of the planet Jupiter*. This was in the yarn *Penal World* published in *ASTOUNDING* in 1937. Shortly afterwards I followed it up with a similar type of yarn called *Whispering Satellite*, also in *ASTOUNDING*. On



THORNTON AYRE

that point my activities with *ASTOUNDING* terminated because everybody was going like Weinbaum and the Editor was plenty sick. Campbell wrote me an explanatory letter and suggested changes of style.

I chewed things over. This science fiction business was getting a hold on me, and imitation would not do any longer. Why not try the other extreme and find out what had *not* been done? I felt I had got something there. Well, what *hadn't* been done? Mystery!

Mystery! Of course! So far as I could figure out all the yarns were more or less straight experiments, adventures, theories, or—very rarely—a detective sort of problem. But what about a real juicy mystery woven round with science? Something to explain Mars, for instance, as it had never been explained before?

So I launched on a style which, I have since found, was unique. I unwittingly brought webwork plots into science fiction with my initial yarn in a new style—*Locked City*. The praise for that one made me all of a benevolent glow and produced *Secret of the Ring* (which I shall always privately regard as the best yarn I've written so far).

It struck me there was something in this webwork stunt worth pursuing: I had a technique given me from the gods of chance that needed a careful development to become something really lasting. Perhaps rather overwhelmed by my discovery, I tumbled down on my next two yarns—short ones fortunately—which were mere shadows of my others and are better left unrecorded. Then again I caught the slant and nailed it down: out popped *World Without Women* from the old hag of tricks.

I do not think I shall go haywire on my webwork formulae in the future because, hearing in mind some very helpful remarks from *AMAZING's* Editor, I see how it is possible to apply the webworks to any conceivable plot. I have for instance, been in danger lately of getting a surfeit of mysterious heroines (the dames just *would* turn up in the three stories I've mentioned) and it might have thrown me into a stereotyped mold but for a timely warning from official sources. That means I shall expand the webwork to cut out the mystic heroine slant and apply it instead to other things—anything from a statue to a tin tack. There are no limits to webwork, as I shall hope to prove as time goes on (editor willing).

I have become fascinated enough by this new technique, and the books of Harry Stephen Keeler, the American webwork master, to spend a lot of time in between science fiction putting together webwork novels—not scientific; just a mesh of conflicting strands of mystery. So far I have not had time to complete my ideas, but by the end of this year I hope to finish the first 90,000 word book. For England it will be an almost new style of writing, and that's where I hope to cash in. And I shall still call myself Thornton Ayre, not some pen-name or other.

I have been surprised at having several requests wishing to know how I write—and several more asking *why* I write! Disregarding the latter, I can only say that I write regularly, day by day, being a ruthless disciplinarian. On an average I turn out perhaps 2,000 words a day, redraft it over about three times before doing final copy—which I romp through as fast as the old typer can take it. But the ideas? Well, I never could figure where an idea came from—which is a good

basis for several s-f yarns I've read, by the way—so, not being able to do that, I jot down notions as they come on a huddle of papers clipped in a file.

If a foreign spy found them he'd be convinced he'd happened on a vast secret! But there's only me who can understand them—and even I can't sometimes. *Locked City* notes for instance, started with the title itself. I got the crazy notion of a city all locked up for no purpose, and the hits drifted in as weeks went by. Here are a few extracts from the notes I took—"Locked City—machines all locked. Why? Children jump about. Sudden death? Water was heavy. Check up heavy water. Why Mars? Because a dictator sent them there—Have seven kids. Seven's a mystic number. Three characters and hump one off to prove point." Sounds ghastly, doesn't it, but you gather the drift?

So all the stories work out with me. But I always have the end of a webwork first. I have the solution and supply the riddle to fit it! Maybe I'm nuts; sometimes I think I am.

I'll tell you why. I've got another lot of notes that reads—"Four times—Kill off six. Piece of rock. Man didn't come at all. . . . Saturn, of course."

Now what the heck does that mean? I wonder, do we s-f guys write our yarns in our dreams? I think I wrote those particular notes that way.

In regard to "Face in the Sky," did you ever take a walk on a winter's night, after a shower, and glance up to find hulky masses of silver-edged cloud sliding past the moon? I did. Did you ever let your imagination wander and paint those clouds with understandable form? A face, perhaps? I did.

I got the idea of a face from a storm bank of cloud with three holes punched through it, through which moonlight streamed over a wet, glistening landscape. It set me wondering on how the world would react to a face in the sky—hut at that time, I admit, I had only the Face to think about. The other parts of the plot were a long time coming.

Part of the plot was supplied by a friend of mine with whom I once lived for some years. One day he mentioned a plot which involved the crystals mentioned in the story. Out of my memory came the pigeon-holed Face and just naturally joined up with the crystals. My interest was stimulated to work out exactly how the phenomenon depicted in the story could come about—and, so far as I can judge, it is entirely accurate.

For the sake of dramatic effect I have, I admit, overestimated the possibility of sunspots, but since no sunspot period of the intensity described has ever yet happened how are we to be sure hut what the theory is quite accurate?

Long live science fiction!—Thornton Ayre, *Blackpool, Lancs, England.*

QUESTIONS and ANSWERS

This department will be conducted each month as a source of information for our readers. Address your letters to Question and Answer Department, AMAZING STORIES, 608 S. Dearborn St., Chicago, Ill.

Q. If an airplane was to fly as fast as sound (1280 feet per second or about 870 m.p.h.) could it be heard?—Charles C. Meloy, 1339 Thorndale Avenue, Chicago, Illinois.

A. If an airplane flew by you going at the same speed sound does, you would hear it. But not until it had passed you. Then the pitch of the sound would be very high and almost beyond audible limits, gradually dropping in pitch until it could no longer be heard. This phenomenon is known as Doppler's principle which states that the pitch of a sound created by a moving object increases in direct proportion to the speed of the approaching vehicle and decreases in direct proportion to the speed of the receding vehicle. You have probably noticed this as a train passes by blowing its whistle. The whistle sounds high and shrill as the train approaches and low and deep after the train has flashed by.

* * *

Q. I have been told that automobile race drivers who race on the famous Indianapolis track fill their tires with nitrogen gas. Is this true? And if it is, why do they use nitrogen?—David Wright O'Brien, 1430 Granville Avenue, Chicago, Illinois.

A. Yes, it is true. Race drivers have found that, during long races, the tires have a tendency to get very hot because of constant road and flexing friction. The constant motion of the rubber treated cotton cords in the tire creates enough heat to burn the inner tube. Therefore the inner tube is filled with nitrogen which is an inert gas that will not oxidize the hot inner tube to cause a disastrous blowout.

* * *

Q. What is the fastest speed of a human falling body? Men jump from airplanes and do not open their parachutes until they are close to the ground. Do they accelerate according to the law of a falling body which increases in direct proportion to the height from which the object is dropped? Jack Broad, Wilmette, Illinois.

A. Tests made by the United States Navy indicate that a man falling from an airplane will fall no faster than 120 m.p.h. Air resistance prevents the bulky human body from falling any faster. Some parachute jumpers have further slowed down their falls by strapping cloth wings to their arms and legs. In this manner they are able to stunt by performing loops, and "wing-

overs" on the way down to earth.

* * *

Q. I disagreed with a friend that there were only six senses. I was recently convinced that there were eleven besides the six major ones. What is your information?—James Polites.

A. There are five major senses, and we know scientifically of only these five. Some people claim the existence of a sixth sense, and of others, naming them telepathy, proximity, and many other such designations. However, we could consider very many mental phenomena as senses if we looked at them in this light.

* * *

Q. Providing that a rocket ship could be built to meet all requirements of space travel, would it be necessary to propel it upwards at a speed greater than the velocity of escape: i. e., seven miles a second, in order to slip away from the earth's gravitational pull? Why could the ascent not be gradual? If balloons ascend into the stratosphere, why should they not continue into outer space using rocket blasts for the necessary propulsion?—Eugene Denton, Halifax, Nova Scotia, Canada.

A. The seven miles a second speed is indicated as initial velocity, that is, if a bullet were fired from a gun, it would need that initial speed to keep on ascending and never return to earth. It is silly to assume that we can't have space flight just because of this, since it is, as you say, possible to build up that velocity gradually. A rocket ship would not be a bullet. It would contain its own motive force. And thus, it could travel at a constant acceleration far below an initial velocity of seven miles per second, and still easily escape the earth.

* * *

Q. What is a water rheostat and how does it work?—Bertram D. Chapman, Chicago, Illinois.

A. A water rheostat consists of a 5 gallon stone jar partially filled with salt water. In the bottom of the jar is an electrical contact and on the top is a metal sheet which is raised and lowered into the water. The nearer the two contacts the less the resistance; the farther apart they are the greater the resistance. The principal disadvantage of this type of rheostat is that the action of the current decomposes the water into its natural elements, oxygen, and hydrogen, and the loss must be made up by the addition of more water. There is also danger of an explosion should the hydrogen and oxygen be ignited.

QUIZ ANSWERS

(Quiz on page 141)

SELECTION TEST

1. Bay of Fundy.
2. Numismatist.
3. 30,000 ft. per sq. in.
4. Paleontology.
5. Babcock.
6. 165 years.
7. Eratosthenes.
8. Rittenhouse.
9. Mendelev.
10. Corundum.
11. Ozark.
12. Filtrum.
13. 2640 ft.
14. Specific gravity.
15. Water was compressible.

TRUE OR FALSE?

- | | | |
|-----------|-----------|------------|
| 1. True. | 6. True. | 11. False. |
| 2. False. | 7. True. | 12. True. |
| 3. False. | 8. True. | 13. False. |
| 4. False. | 9. True. | 14. True. |
| 5. False. | 10. True. | 15. False. |

CORRESPONDENCE CORNER

Jimmy Taurasi, FANTASY NEWS, 137-07 Avenue, Flushing, New York, announces all New York and New Jersey Science-Fiction fans are welcome to attend New York's Science-Fiction Club, THE QUEENS SCIENCE-FICTION LEAGUE, which will hold its first meeting of the 1939-40 season on September 3. For further information, those interested should write to Mario Racic, Jr., 22-32 33rd Street, Astoria, New York. . . . A. H. Bowles, Jr., 2408 North Walnut Avenue, Spokane, Washington, wishes to obtain original s-f manuscripts, drawings and paintings by famous s-f authors and artists. . . . James Apostle, 48 Hartford Avenue, Thompsonville, Conn., has *Skylark Three* complete in August, September, and October, 1930 AMAZING STORIES. He also has seven issues of AMAZING STORIES for 1927, and six issues for 1928. All are in very good condition with covers, except one. Best offer gets them. . . . Henry Boernstein, 1071 Mount Royal Blvd., Outremont, Montreal, Canada, has an almost complete file of all Science-Fiction magazines back to 1933, and many previous to that year. They go to the highest bidder. . . . Edwin MacDonald, 25 Dochfour Drive, Inverness, Scotland, Great Britain, has the following which he would like to exchange for any other American Science-Fiction magazines: AMAZING STORIES, April and June, 1937; and October and November, 1938.

SCRAMBLED SCIENCE TERMS

1. AQUARIUS.
2. PORCUPINE.
3. STETHOSCOPE.
4. EMERALD.
5. TUNGSTEN.

DO YOU KNOW?

1. Six layers: troposphere, tropopause, stratosphere, upper stratosphere, Kennelly-Heaviside layer, Appleton layer.
2. It was discovered that a gas, shut up in a hollow steel ball, lost some of its electrons, because of the passage of some ionizing ray. This ray was determined to be the cosmic ray.
3. They were Russian stratosphere flyers and they crashed on Jan. 30, 1934, from a height of 132½ miles and were killed.
4. The color darkens gradually, and ultimately, in space, it becomes black.
5. Yes. Explorer II carried living fungi spores, and they were not harmed by exposure to the extreme cold, and to cosmic rays, at a height of 14 miles.
6. Kinetics.
7. It is polarized.
8. It is the symbol for water.
9. Helium gas is non-inflammable, whereas Hydrogen is highly explosive.
10. Yes. Tiny diamonds have been artificially produced under great pressure.

Also the following British Science Fiction magazines: *Tales of Wonder*, Numbers 1, 3, 5, 6; *Fantasy*, Number 2; and, in the true science field, *Armchair Science*, February, March, April, and May, 1939. He would also like to correspond with anyone anywhere. . . . P. B. Hendriksen, c/o Standard Bank of South Africa, Ltd., Mooi River, South Africa, wishes to obtain all back numbers of the three original Science-Fiction magazines (AMAZING, *Wonder*, and *Artounding*). Those of you having issues to sell should write him and give details as to date of issue and the required price. . . .

WANT PEN-PALS

Douglas Sheely, 301-23rd Street, Denver, Colorado, wants correspondence on Astronomy or any allied science. . . . Miss Ada Wilkins, Route 1, Wakefield, Rhode Island, looks forward to exchanging letters with women readers of Science-Fiction. Says Miss Wilkins: "I don't see many letters in the magazines from the ladies." You women readers should do something about this. . . . James F. Autry, 927 Chestnut Street, Denton, Texas, would like a pen-pal in England. He also wants to buy old Science-Fiction magazines either of British or American origin. . . . Jack Townsend, P. O. Box, 604, Wilson, N. C., is 12 years old and wants to correspond with boys and girls his own age who are interested in electricity. . . . Miss Grayce Rich, 118-01 97th Avenue, Richmond Hill, New York, age 17, would like pen-pals around her own age.



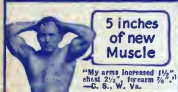
GEE what a build!
Didn't it take a long
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chest $2\frac{1}{2}$ ", forearm $\frac{3}{4}$ "
—G. S., W. Va.



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on chest (nori-
mal) and $2\frac{1}{2}$ "
expanded." — F. S.,
N. Y.



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only 141. Now weigh
170." — T. K., N. Y.



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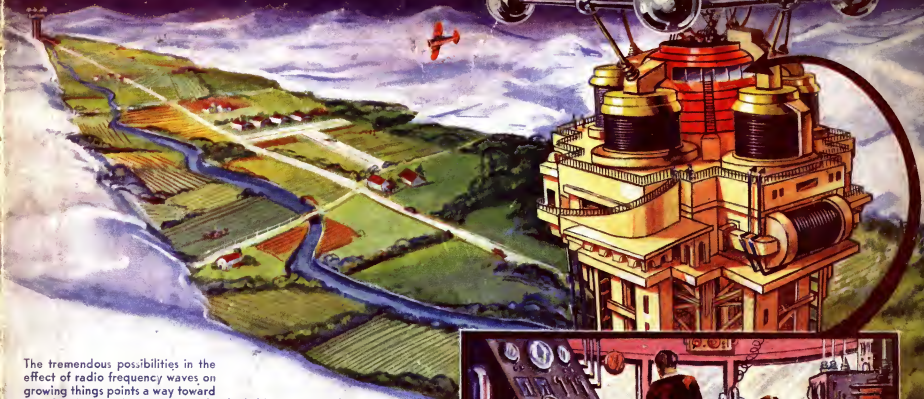
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Arctic Radio Farms



The tremendous possibilities in the effect of radio frequency waves on growing things points a way toward transforming arctic wastes into fertile fields. Pictured here is a tiny valley in the icy north, converted into a temperate paradise of growing things, farms producing foods greatly necessary to possible colonization of the great waste areas of ice and winter. Frequency vibrations, broadcast from the towers, act upon the hydrogen atoms of the ice, to break it down into heavy hydrogen, with a release of heat. Thus, an area within the range of the beams from the towers is kept free of ice, and sufficient heat produced to foster the growth of vegetable life. With agricultural facilities, civilization could come to the arctic. For complete description, see page 142. **AMAZING STORIES**, 1939.

